(28,081)

(28,082)

SUPREME COURT OF THE UNITED STATES. OCTOBER TERM, 1921.

No. 219.

THE CITY OF HOUSTON, APPELLANT,

VB.

SOUTHWESTERN BELL TELEPHONE COMPANY.

No. 220.

SOUTHWESTERN BELL TELEPHONE COMPANY, APPELLANT,

¥8.

THE CITY OF HOUSTON ET AL.

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

INDEX.

	Original.	Print.
Caption	. 1	1
Præcipe No. 1 (defendant)	. 2	2
The plaintiff's amended and substitute bill of complaint, file	d	
December, 1919	. 3	3
The answer of the defendants	. 13	12
The order referring the cause to the special master to tak	e	
the testimony and report to the court	. 45	28

The report of the special master	29 45 50 59 61 62 65 66
master	50 59 61 62 65 66
The opinion of the court upon the hearing of such exceptions, filed herein the 7th day of September, 1920	50 59 61 62 65 66
filed herein the 7th day of September, 1920	59 61 62 65 66
The judgment and decree of the court entered herein on the 18th day of September, 1920	59 61 62 65 66
18th day of September, 1920	61 62 65 66
The petition of the City of Houston for an appeal	61 62 65 66
The assignments of error filed with said petition for appeal	62 65 66
The order of the court granting the petition for appeal 85 The citation on appeal and the return thereon 86 That portion of the testimony taken before the master, which has been transcribed and filed in the office of the clerk of this court on the 19th day of November, 1920 87 Testimony of A. E. Scott 87 Testimony of Lamar Lyndon 105 Plaintiff's Exhibit 10—Valuation data 152 Testimony of H. B. Copes 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 325 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	65
The citation on appeal and the return thereon	66
That portion of the testimony taken before the master, which has been transcribed and filed in the office of the clerk of this court on the 19th day of November, 1920. 87 Testimony of A. E. Scott. 87 Testimony of Lamar Lyndon. 105 Plaintif's Exhibit 10—Valuation data. 152 Testimony of H. B. Copes. 164 A. E. Scott (recalled). 231 F. M. Hoag. 260 George P. Player. 273 P. K. Baker. 276 J. C. Kelsey. 281 Lamar Lyndon (recalled) 289 C. A. Gates. 323 Frederick Leland Rhodes. 375 Robert F. Estabrook. 558 W. O. Pennell. 634 Benjamin T. McBurney. 746 James T. Moran. 788	
has been transcribed and filed in the office of the clerk of this court on the 19th day of November, 1920. 87 Testimony of A. E. Scott. 87 Testimony of Lamar Lyndon 105 Plaintiff's Exhibit 10—Valuation data 152 Testimony of H. B. Copes. 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	67
court on the 19th day of November, 1920. 87 Testimony of A. E. Scott. 87 Testimony of Lamar Lyndon. 105 Plaintiff's Exhibit 10—Valuation data 152 Testimony of H. B. Copes. 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	67
Testimony of A. E. Scott. 87 Testimony of Lamar Lyndon. 105 Plaintiff's Exhibit 10—Valuation data 152 Testimony of H. B. Copes. 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	67
Testimony of Lamar Lyndon 105 Plaintiff's Exhibit 10—Valuation data 152 Testimony of H. B. Copes 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	
Plaintiff's Exhibit 10—Valuation data 152 Testimony of H. B. Copes. 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	67
Testimony of H. B. Copes 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	76
Testimony of H. B. Copes 164 A. E. Scott (recalled) 231 F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	102
A. E. Scott (recalled)	107
F. M. Hoag 260 George P. Player 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	137
George P. Player. 273 P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates. 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	149
P. K. Baker 276 J. C. Kelsey 281 Lamar Lyndon (recalled) 289 C. A. Gates 323 Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	155
J. C. Kelsey. 281 Lamar Lyndon (recalled). 289 C. A. Gates. 323 Frederick Leland Rhodes. 375 Robert F. Estabrook. 558 W. O. Pennell. 634 Benjamin T. McBurney. 746 James T. Moran. 788	156
Lamar Lyndon (recalled) 289 C. A. Gates. 323 Frederick Leland Rhodes. 375 Robert F. Estabrook. 558 W. O. Pennell. 634 Benjamin T. McBurney. 746 James T. Moran. 788	158
C. A. Gates. 323 Frederick Leland Rhodes. 375 Robert F. Estabrook. 558 W. O. Pennell. 634 Benjamin T. McBurney. 746 James T. Moran. 788	162
Frederick Leland Rhodes 375 Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	176
Robert F. Estabrook 558 W. O. Pennell 634 Benjamin T. McBurney 746 James T. Moran 788	203
W. O. Pennell	297
Benjamin T. McBurney	333
James T. Moran 788	389
	413
	400
A. E. Scott (recalled)	
H. Biair-Smith 810	422
Lamar Lyndon (recalled)	469
J. C. Kelsey (recalled) 922	481
F. M. Hoag (recalled)	519
H. P. Topping 1060	549
George P. Player (recalled) 1078	559
Charles A. Gates 1102	571
George L. Wilson 1199	617
F. M. Law 1206	620
J. W. Hoopes 1229	631
B. P. Timpson	638
C. A. Gates (recalled) 1265	646
Edward V. Cox	660
F. M. Hoag (recalled) 1407	709
C. A. Gates (recalled) 1411	711
J. C. Kelsey (recalled)	725
Plaintiff's Exhibit 45—Estimate as to rates, &c 1444	729
Plaintiff's Exhibit 46-Summary of property and net	
loss 1448	730

	Original.	Print.
Testimony of A. E. Scott (recalled)		733
Plaintiff's Exhibit 43-Statement of revenues, 1919		743
Testimony of Lamar Lyndon (recalled)		753
C. A. Gates (recalled)		767
A. E. Scott (recalled)		768
Præcipe for record (No. 1) Defendant's waiver of notice and service to filing by South western Bell Telephone Company of original complaint in nature of a supplemental complaint, filed July 20.		769
Motion of Southwestern Bell Telephone Company for per- mission to file original complaint in nature of a supple		771
mental complaint, filed July 20, 1920	1523	774
phone Company, filed July 20, 1920		777
Petition of complainant for extension of time to file		778
præcipe, filed November 29, 1920 Order of court enlarging time for complainant to file		780
præcipe, filed November 29, 1920		781
1920		782
December 17, 1920		786
filed December 28, 1920 Citation on appeal and waiver of service thereon, filed	1	787
January 4, 1921		789
appellee, filed January 13, 1921 Petition of complainant for further extension of time for		790
præcipe, filed January 15, 1921 Order of court granting Southwestern Bell Telephone Com- pany a further extension of time for filing præcipe, filed		790
January 18, 1921		791
18, 1921 Order of the United States district court granting extension of time to Southwestern Bell Telephone Company for preparation of transcript of record on appeal and docketing cause in the Supreme Court of the United		792
States, filed January 18, 1921	1563	793
17, 1921	1565	794

	Original.	Print.
Order of court granting joint application of plaintiff a		
defendants for order authorizing original exhibits		
be forwarded to the clerk of the United States 8		
preme Court, filed January 20, 1921		795
Agreement of counsel, filed January 20, 1921, as to subs		
tution, &c		796
Order granting leave to incorporate portions of the tes		
mony in the record in question and answer form, fil		
January 22, 1921		797
Plaintiff Southwestern Bell Telephone Company's sta		
ment of evidence in connection with the appeal of t		
defendants The City of Houston et al		798
Plaintiff's Exhibit 9—Dividends paid		798
11—(Not set out)		799
24—Statement; annual rate of reserve		800
25—Statement in re buildings		804
26—(Not set out)		805
176—Realized depreciation		806
35—Annual depreciation reserve		808
47 to 53—Statements		810
		814 823
Abstract of Plaintiff's Exhibits 122 to 135, inclusive Abstract of Plaintiff's Exhibits 136 to 140, inclusive		826
		827
Plaintiff's Exhibit 141—Agreement blank		821
142—Correspondence covering contra		090
relations, &c		832 870
143—(Summary: Exhibit omitted)		870
144—(Summary: Exhibit omitted).		875
145—(Summary: Exhibit omitted) 146—Extracts from licensee contra		810
		876
&c		939
		909
148 to 162, inclusive—(Abstracted hibits not set out)		940
163—(Not set out)		955
Offers of evidence, &c		955
Testimony of A. E. Scott (recalled)		956
Plaintiff's Exhibit 42—Summary of revenues and		200
penses		961
171—Comparative statement		964
172—Statement		973
173—Summary of physical pro		010
erty	-	974
174—Summary of additions		976
175—Comparison of payments		810
Houston, benefit fund plan		978
Testimony of J. C. Kelsey (recalled)		985
Lamar Lyndon (recalled)		986
J. C. Kelsey (recalled)		991
Lamar Lyndon (recalled)		1129
Plaintiff's precipe for record No. 2		1241

	Original.	Print.
Plaintiff's Exhibits 13 to 23, inclusive-Abstracted bu	t	
exhibits not set out	. 2408	1242
Plaintiff's Exhibits 31 and 32-Abstracted but exhibit		
not set out	. 2420	1252
Plaintiff's Exhibit 36-Final summary, report on ap	-	
praisal of property, &c	. 2423	1254
Plaintiff's Exhibits 37, 38, and 39—(Abstracted bu		
exhibits not set out)	. 2424	1254
Plaintiff's Exhibit 60—(Abstract of exhibits)		1257
Plaintiff's Exhibit 80—Diagram	. 2440	1263
Testimony of A. E. Scott (recalled)	. 2441	1264
Plaintiff's Exhibit 41-Statement of working capital.	. 2448	1267
Testimony of F. M. Hoag (recalled)	2460	1273
Geo. L. Nelson	. 2576	1328
R. L. Jacobe	2588	1334
B. W. Warren	2502	1336
F. M. Hoag (recalled)	2599	1340
C. A. Gates (recalled)		1501
Arthur W. Allen	2948	1508
C. A. Gates (recalled)		1514
James E. Allison	. 3036	1551
H. P. Topping	3121	1593
Defendant's præcipe No. 2	3239	1646
Testimony of Lamar Lyndon (recalled)	3240	1647
Testimony of C. A. Gates (recalled)	3274	1662
udge's certificate to statement of evidence		1664
'lerk's certificate	3278	1864



No. 108. Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY

versus

THE CITY OF HOUSTON et al.

TRANSCRIPT OF RECORD ON APPEAL FROM UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION.

VOLUME I.

In the Supreme Court of the United States.

No. --

No. 108. In Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff (Substituted by Order of Court as Party Complainant in the Place of The Southwestern Telegraph and Telephone Company),

versus

THE CITY OF HOUSTON et al., Defendants.

Appeal from the District Court of the United States for the Southern District of Texas.

Caption.

No. 108. In Equity.

United States District Court, Southern District of Texas, Holding Sessions at Houston.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff (Substituted by Order of Court as Party Complainant in the Place of The Southwestern Telegraph and Telephone Company),

V8.

THE CITY OF HOUSTON et al., Defendants.

Be it remembered that in the above entitled and numbered cause lately pending in said court at Houston, and in which a Final Decree was rendered at the Regular February, 1920, Term of said Court then in session in the Court-room of said Court in the City of Houston, on the 18th day of September, A. D. 1920.

1

Honorable George Whitfield Jack, Acting United States District Judge for the Southern District of Texas, presiding, the following proceedings were had and taken in said Court, to-wit:

2

Præcipe for Transcript.

Filed Nov. 23, 1920.

Equity. No. 108.

In the District Court of the United States for the Southern District of Texas at Houston.

SOUTHWESTERN TELEGRAPH & TELEPHONE Co., Complainant,

VS.

THE CITY OF HOUSTON et al., Defendants.

To the Clerk of said Court:

The Clerk will please incorporate into the transcript of the record on appeal the following portions of the record:

- No. 1. The Plaintiff's amended and substitute- Bill of Complaint, filed December 1919.
 - No. 2. The answer of the Defendants.
- No. 3. The order referring the cause to the Special Master to take the testimony and report to the Court.
 - No. 4. The report of the Special Master.
- No. 5. The exceptions of the Defendants to the report of the Special Master.
- No. 6. The Opinion of the Court upon the hearing of such exceptions, filed herein the 7th day of September 1920.
- No. 7. The judgment and decree of the court entered herein on the 18th day of September 1920.
 - No. 8. The Petition of the City of Houston for an appeal.
 - No. 9. The Assignments of Error filed with said Petition for appeal.
 - No. 10. The order of the Court granting the Petition for Appeal.
 - No. 11. The Citation on Appeal and the return thereon.
- No. 12. That portion of the testimony taken before the Master, which has been transcribed and filed in the office of the Clerk of this Court on the 19th day of November 1920.

W. J. HOWARD, Solicitor and Counsel for the Defendant, the City of Houston. Service hereof accepted this 22nd day of November, 1920.

JOSEPH D. FRANK,

Solicitor for Plaintiff.

Endorsements: Equity No. 108. In the District Court of the United States for the Southern District of Texas at Houston. The Southwestern Telegraph & Telephone Company, Complainant, vs. The City of Houston et al., Defendants. Præcipe for transcript. Filed 23 day of Nov., 1920. L. C. Masterson, clerk, by J. L. Sexton, deputy.

3 Amended and Substituted Bill of Complaint.

Filed Dec. 15, 1919, Nunc pro Tunc as of Dec. 12, 1919.

In the District Court of the United States for the Southern District of Texas, Houston Division.

No. 108. In Equity.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY, a Corporation,

VS.

The City of Houston, Texas; A. E. Amerman, as Mayor of the City of Houston; Dan M. Moody, as Tax and Land Commissioner of the City of Houston; H. A. Halverton, as Fire Commissioner of the City of Houston; Matthew Drennan, as Street and Bridge Commissioner of the City of Houston; David Fitzgerald, as Water Commissioner of the City of Houston; Searcy Baker, as Superintendent of Police of the City of Houston.

Amended and Substituted Bill of Complaint.

Now comes the Plaintiff, leave of Court being obtained so to do, and files this its Amended and Substituted Bill of Complaint and complaining of the defendants says:

- 1. Plaintiff, The Southwestern Telegraph and Telephone Company, is now and at all times hereinafter mentioned was a corporation duly organized and existing under the laws of the State of New York and a citizen of said State, and duly authorized under the laws of the State of Texas to do business within the State of Texas.
- 2. Said defendants and each of them, are now and at all times herein mentioned were citizens, residents and inhabitants of the State of Texas, and of the Southern District of Texas, Houston Division.
- 3. The defendant, the City of Houston, is now and at all of the times hereinafter mentioned was a municipal corporation of the State of Texas, organized and existing by virtue of a special charter granted to it by the State of Texas.

- 4. The defendant A. E. Amerman, is now and has been for a period of approximately two years, the duly elected, qualified and acting Mayor of the City of Houston.
- The defendant, Dan M. Moody, is now and has been for some time the duly elected, qualified and acting Commissioner of Taxes and Land for the City of Houston.
- 6. The defendant H. A. Halverton, is now and has been for some time the duly elected, qualified and acting Fire Commissioner for the City of Houston.
- 7. The defendant Matthew Drennan, is now and has been for some time the duly elected, qualified and acting Street and Bridge Commissioner of the City of Houston.
- 8. The defendant David Fitzgerald, is now and has been for some time the duly elected qualified and acting Water Commissioner of the City of Houston.
- 9. The defendant, Searcy Baker, is now and has been for some time the duly appointed, qualified and acting Superintendent of Police of the City of Houston.
- 10. The said A. E. Amerman, Dan M. Moody, H. A. Halverton, Matthew Drennan and David Fitzgerald in the several capacities aforesaid, now constitute the City Council of the City of Houston, and constitute the governing body of said City.
- 11. The full names of the several defendants whose full names are not stated are unknown to the Plaintiff.
- 12. This action is of a civil nature and the matter in controversy herein exceeds the sum or value of to wit: Three Thousand Dollars (\$3,000.00) as will more fully appear hereinafter, and arises under the constitution and laws of the United States, and is a suit in equity wholly between citizens of different states.
- 13. Plaintiff now and during the time herein referred to has been lawfully engaged in the telephone business and at and during said times has lawfully owned and operated a telephone exchange system in the City of Houston, with all of the property, appliances and appurtenances necessary to the proper operation of said exchange system.
- 14. On or about the 22nd day of October 1909, the City of Houston purporting to act under authority conferred upon it by a special act of the twenty-ninth Legislature of the State of Texas in the year 1905, the same being a special charter granted to said City, passed an ordinance which is now Section 990 of the Revised Code of Ordinances of the City of Houston, fixing the rates to be charged by any person, firm, corporation or receiver, operation or owning telephone lines in the City of Houston, engaged in the business of furnishing telephone connections and service to the citizens thereof. Said ordinance contained among other things the following provisions:

"Sec. 990. Rates of Charges: Any person, firm, corporation or receiver operating or owning telephone lines and exchanges within the City of Houston, Harris County Texas, engaged in the business of furnishing telephone connection and service to the citizens of the City of Houston, shall charge not exceeding the following rates, towit:

Rate One: Telephone lines and exchanges having three thousand (3,000) or less paying subscribers within the limits of the City of Houston shall have the right to charge for business or office connection, Three Dollars (\$3.00) per month, for residence Two Dollars (\$2.00) per month. Party Lines: Business or office, Two Dollars (\$2.00) per month;

Residence, One Dollar (\$1.00) per month.

Rate Two: Telephone lines and exchanges having in excess of Three thousand (3,000) paying subscribers within the limits of the City of Houston shall have the right to charge for business or office connections, Five Dollars (\$5.00) per month, for residence Two Dollars (\$2.00) per month.

Party Lines: Business or office Three Dollars (\$3.00) per month,

Residence One and 50/100 Dollars (\$1.50) per month.

Provided, that the rates above fixed, are fixed for a reasonably efficient service, and in the event the service is not reasonably efficient, the subscriber or customer can satisfy his bill and the requirements of this section by paying or tendering to the person, firm corporation or receiver, operating or owning the telephone lines, such proportion of the rate fixed by law for the service as the service actually furnished bears to a reasonably efficient service.

In the event the service is not reasonably efficient, and the customer has paid in advance at the rate fixed by this section, he can deduct an amount proportionate to the deficiency in the service from the rate for the next month, and the person, firm, corporation or receiver operating or owning the telephone line shall be bound in all cases to receive said money and continue to furnish the service; provided that the amount of money paid by the customers is proportionate to the service rendered (Nov. 22, 1909, Ord. Bk. 3, p. 541 Sec. 1).

Said ordinance further provided a penalty of not less than Twenty five Dollars (\$25.00) and not exceeding One Hundred Dollars (\$100.00) for each violation of said Section 990 by charging a greater rate or toll for service than therein named, Section 991 whereof is hereby specially pleaded and is as follows:

"Sec. 991. Penalty: Any person, firm, corporation or receiver operating or owning telephone lines or exchanges within the limits of the City of Houston, Harris County Texas, engaged in the business of furnishing telephone connections and service to the citizens of said City of Houston, or any agent manager or superintendent thereof, who shall charge any greater rates or tolls for the services herein named than those hereinbefore fixed, or who shall refuse to continue to furnish the service because the customer fails or refuses to pay a greater amount for the telephone service than is fixed by Sec. 990, or that is payable under the next preceding section for the character of service rendered in the particular case, shall be deemed guilty of a misdeameanor and, upon conviction, shall be fined in any sum not less than Twenty-five Dollars (\$25.00) and not exceeding One Hundred Dollars (\$100.00) for each offense, and in case of failure or refusal to further furnish telephone service to the consumer or subscriber, it shall be a separate offense for each day that there is failure or refusal to furnish the service. (id.)"

15. Plaintiff further says that on May 10, 1915, the City of Houston passed an ordinance authorizing the purchase by this Plaintiff of the property owned by the Houston Home Telephone Company, a competing telephone company in the City of Houston, the same being entitled "An Ordinance authorizing the consolidation and merger of the Houston Telephone Exchange of The South-

western Telegraph and Telephone Company and the telephone exchange of the Houston Home Telephone Company, prescribing the terms and conditions of such consolidation

and merger, and declaring an emergency";

That Sub-section (e) of Section 1 of said ordinance which is

hereby specially pleaded, reads as follows:

"The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than seven nor more than eight per cent."

On June 8, 1915, this plaintiff transmitted to the City of Houston its written acceptance of the above mentioned ordinance and thereafter acquired by purchase the property of the Houston Home Telephone Company.

16. During the year 1917 and for many years prior thereto and at the time of the passage of the said ordinance of 1909 and continuously from the date of the passage of said ordinance, plaintiff had been charging its subscribers in said City for telephone exchange service, the following rates:

For direct line business telephone and service \$5.00 per month. For direct line residence telephone and service \$2.00 per month.

17. On December 27, 1917, plaintiff, in compliance with the terms of the 1915 ordinance aforesaid, duly presented to the City Council of said City, by personal service, a showing in writing of all its receipts and disbursements in the operation of said telephone system

in the City of Houston, together with the fair value of its said property, used and useful in rendering the said service, which showing set forth the facts and figures in detail. That in and by said showing it was made to appear to said defendants and the said City Council of the City of Houston that plaintiff sustained a net loss for the year 1915 of \$103,998.40; for the year 1916, a net loss of \$136,762.28; for the first six months of the year 1917, a net loss of \$59,226.41; or a total net loss for the said period of two and one-half years of \$299,987.09 from the operation of said exchange; that said net loss is the excess of operating expenses over operating receipts without any return upon the value of plaintiff's property and the capital actually invested therein. That it was shown by said statement that the then existing capital actually invested in said

exchange was the sum of \$5,362,150.00, as of December 27, 1917. That said showing was satisfactory in form and reasonably proved that there existed a necessity for an increase of charges in order that plaintiff might earn a fair return upon the value of its property and the capital actually invested in its said Houston plant. That accordingly plaintiff filed with and as a part of its said showing, a proposed new rate schedule for said Houston exchange as follows:

New Rate Schedule.

Houston Exchange.

\$2.00 per month for measured service residence telephone, including 60 outgoing calls per month, excess calls 2¢ each. All incoming calls free.

\$3.00 per month for flat rate residence telephone service.

\$4.00 per month for measured service business telephones, including 80 outgoing calls per month, excess calls 3¢ each. All incoming calls free.

\$7.50 per month for flat rate business telephone service.

\$7.50 per month for P. B. X. Trunks.

No change change in rate for auxiliaries, extension telephones, P. B. X. Stations and miscallaneous equipment.

That said showing further established that said new rate schedule, on the basis of the operation for the year 1916, would have yielded additional revenue for that year in approximately the sum of \$167,415.00 or a net balance of operating receipts over operating disbursements for the year 1916 of \$30,652.72, if said new schedule had been in force during the year 1916; or a return of less than one per cent upon the value of the property and the capital actually invested in said property.

18. That on several occasions from time to time subsequent to said December 27, 1917, plaintiff discussed the proposed new schedule of rates with the said City authorities, and finally on April 9, 10, 11 and 12, 1918, a formal hearing under oath was had before

the said City Council from which it was further made to appear upon a satisfactory showing of all receipts and disbursements for the entire year 1917, that the plaintiff sustained a loss from the operation of said exchange for that year of \$132,281.54 without any allowance for any return upon the capital actually invested in said property, and upon the value of said property.

19. That the facts and figures submitted to said defendants by the showing in writing dates December 27, 1917, and in the oral hearing before said City Council on April 10 to 14,

1918, as herein alleged, were true and correct, and reasonably proved that there existed a necessity for an increase in charges in order that plaintiff might earn a fair return upon the value of its property and its capital actually invested in said plant, and that the proposed new schedule was less than sufficient to enable it to earn That the defendants, nevertheless, failed and such fair return. neglected to authorize the proposed new schedule or any increase whatever in rates or to take any action whatever in the premises, and that plaintiff continued to charge the old rates awaiting a decision by said defendants until August 1, 1918, when the United States, under a joint resolution of Congress of July 22, 1918, took unto itself the possession, control and operation of plaintiff's said telephone system as a war measure for the duration of the war, and thereafter continued to have and exercise such possession, control and operation by and through the President of the United States and the Postmaster General, to the exclusion of this plaintiff until August 1, 1919

That the operation of plaintiff's said plant in the City of Houston for the period stated was solely to the financial account of the United States; that on February 1, 1919, the Postmaster General put into effect in said Houston Exchange the proposed new schedule of rates as submitted by plaintiff to said defendants in its showing in writing of December 27, 1917, as hereinbefore alleged, and continued said schedule in force throughout the period of Federal operation. That said increase was made necessary by the losses found to be sustained as the result of the operation of the plant under the old schedule

of rates.

That on July 31, 1919 at midnight, the United States returned said telephone property to plaintiff under and by virtue of a joint resolution of Congress approved on July 11, 1919, which said resolution contained the following provision:

"That the existing toll and exchange telephone rates, as established or approved by the Postmaster General on or prior to June 6, 1919, shall continue in force for a period not to exceed four months after this act takes effect, unless sooner modified or changed by the public authorities—state—municipal or otherwise—having control or jurisdiction of tolls, charges and rates or by contract or by voluntary reduction."

That on August 7, 1919, the Mayor of the City of Houston recommended to the City Council that this plaintiff be advised that the City would enforce its ordinance with reference to the rates to be charged for telephone service in said City, and on the same date
a motion or resolution was adopted by the City Council accepting said recommendation and on August 8, 1919, plaintiff's local manager at Houston received a letter from Honorable A. E. Amerman, Mayor of said City, reading as follows:

"In accordance with the motion of the City Council, this day passed, you are hereby notified that since the Government has relinquished control of The Southwestern Telegraph and Telephone Company, and the injunction granted by Judge Jack has thereby become inoperative the City of Houston will insist upon enforcement of the ordinance governing the rates and other matters pertaining to the business of the Southwestern Telegraph and Telephone Company of this City. You will kindly govern yourself accordingly."

That said action was taken by the governing body of the City of Houston without any notice whatsoever to plaintiff and as plaintiff is informed and believes, without any consideration whatsoever upon the part of the said City or its officials as to whether or not the telephone rates which had been put into effect by the Postmaster General were fair and reasonable, and said action was taken without giving plaintiff any opportunity whatsoever to appear and show cause why such action should not have been taken.

20. That during the year 1918 the total revenue realized from the operation of the Houston telephone exchange amounted to \$816,950.95 and the total expense amounted to \$1,018,742.73 leaving a loss of \$201,791.78 as a result of the operation of the Houston plant during said year of 1918; that operating expenses during the year 1919 have increased much faster than operating revenues would have increased with the higher rates in effect; that it has been necessary to make substantial increases in the wages of telephone operators and other employees during the latter half of the year 1919, and that the expenses involved in the operation of said exchange for the year 1920 will be in excess of the expenses of operating said exchange for the year 1919, which are considerable in excess of the operating expenses for the year 1918, and that as a result of the increased expense of operating said exchange an application of the proposed increase in rates at the present time will produce a much smaller annual return than would have been produced in 1918 and that the proposed increased rates are less than fair, just and reasonable, and are much lower than should be charged in order that a fair return may be realized on the value of the property and on the capital actually invested and used and useful in the Houston plant.

21. That the total revenues derived from the operation of the Houston telephone exchange from every source for the period of seven months ending August 31, 1919, during which the increased rates put into effect by the Postmaster General were charged, were \$615,779.27 and the total expenses during the same period were \$659,692.24, leaving a net loss of \$43,912.97; that for the two months of September and October 1919, during

which the rates prescribed by the said ordinance of 1919 were charged, the total revenues from the operation of said exchange were \$146,246.41, and the total expenses were \$213,761.44, leaving a net loss of \$67,515.03.

22. The fair value of plaintiff's said telephone exchange property constituting the Houston telephone exchange and its capital actually invested in said exchange, all of which is necessary and used and useful in the service of the public, and in the operation of the Houston exchange with necessary working capital, is in excess of five

and one-half million dollars.

The actual cost of maintaining and operating said exchange does and will exceed the total gross revenue under such rates as fixed and continued by said ordinance by more than \$405,000.00 per annum. Under the rates as fixed by said ordinance, the total gross revenue of said exchange from all sources each year is and will be \$46,000.00 short of enough to pay the actual cost of furnishing service, before making any allowance for depreciation, to subscribers in the City of Houston; after making allowance for depreciation, said revenues are and will be over \$405,000.00 short of enough to cover the actual cost of furnishing the service.

- 23. Plaintiff says further that the rates fixed by said ordinances, being the original rates hereinbefore mentioned, are confiscatory, unreasonable and insufficient to permit it to operate and maintain its said telephone exchange without actual loss, and are wholly insufficient to permit plaintiff to earn any return whatsoever upon its property and investment; that such ordinance continues and fixes confiscatory rates and is unconstitutional, void and unenforcible and contrary to and in violation of the Constitution of the United States and particularly the 14th Amendment thereto prohibiting the taking of property without due process of law and guaranteeing to all persons the equal protection of the law, and contrary to and in violation of the Constitution of the State of Texas, providing that no person's property shall be taken, damaged or destroyed for or applied to a public use without adequate compensation being made, and when taken, except for the use of the State, such compensation shall be first made or secured by a deposit of money.
- 24. Plaintiff says that such an ordinance and the penalties therein provided are unconstitutional, void and unenforcible and contrary to and in violation of the Constitution of the United States
 11 and particularly the 14th Amendment thereto guaranteeing to all persons the equal protection of the law and prohibiting the taking of property without due process of law.
- 25. Plaintiff says further that it is the purpose and intention of said City and of all of the defendants herein, to enforce and apply the said ordinance of 1909, and that said defendants are threatening to and will apply and enforce said ordinance against plaintiff unless restrained and enjoined from so doing; that plaintiff has no plain, adequate or complete remedy at law, and unless this Court of Equity takes jurisdiction hereof and grants plaintiff an injunction

as hereinafter prayed, plaintiff will suffer irreparable injury; that if said ordinance and the enforcement thereof be not enjoined, plaintiff, if it shall avoid the loss and confiscation of its property must and will charge and collect rates in excess of the rates prescribed by the City ordinance, which action will result in the filing against plaintiff of various suits for penalties under such ordinance and plaintiff will be forced to and will institute many and various suits for the collection of its charges, and to defend many and various suits for mandamus and canages on account of the refusal of plaintiff to furnish service at the rates prescribed by said ordinance. In consideration whereof and forasmuch as plaintiff is without an

adequate remedy, save in a Court of Equity, plaintiff prays:

First. That said ordinance of 1909 be declared unconstitutional. void and unenforcible and not binding upon plaintiff and that defendants be enjoined from interfering with plaintiff in charging rates which will produce a fair return and further that plaintiff be permitted to charge and collect as and from the date of August 1, 1919, the proposed schedule of rates set out in paragraph seventeen herein.

Second: That said City of Houston, its officials, agents and employees and said A. E. Amerman, Dan M. Moody, H. A. Halverton, Matthew Drennan, David Fitzgerald and Searcy Baker, as officers of said City as herein set forth, their successors, agents and servants, be temporarily and permanently enjoined and restrained from taking any steps to enforce said ordinance and from instituting or permitting or causing to be instituted or prosecuting or permitting or causing to be prosecuted any prosecution or legal proceedings of any kind whatsoever against plaintiff under said ordinance; from directing or permitting any attorney for said City to prosecute or assist in prosecuting plaintiff directly or indirectly for any failure or refusal by it to recognize or comply with said ordinance.

12 Third. That plaintiff may have such other and further relief both general and special as may be just and equitable.

D. O. FRANK. JOSEPH D. FRANK. WM. H. DULS, JOHN CHARLES HARRIS. Solicitors for Plaintiff.

Endorsements: Duplicate. No. 108. In Equity. The Southwestern Telegraph and Telephone Company v. The City of Houston et al. Amended and Substituted Bill of Complaint. Filed Dec. 15 nunc pro tunc as of Dec. 12, 1919. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

13

Defendants' Answer.

March 24th, 1919.

In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

VS.

THE CITY OF HOUSTON, TEXAS; A. E. AMERMAN, Mayor of the City of Houston, Texas; Dan M. Moody, Tax and Land Commissioner of the City of Houston; H. A. Halverton, Fire Commissioner of the City of Houston; Matthew Drennan, Street and Bridge Commissioner of the City of Houston; David Fitzgerald, Water Commissioner of the City of Houston; Kenneth Krahl, City Attorney of the City of Houston; W. J. Howard, City Solicitor of the City of Houston; Searcy Baker, Superintendent of Police of the City of Houston.

Come now the Defendants in the above entitled and numbered cause, The City of Houston, and A. E. Amerman, Mayor of the City of Houston; Dan M. Moody, Tax and Land Commissioner of the City of Houston; H. A. Halverton, Fire Commissioner of the City of Houston; Matthew Drennan, Street and Bridge Commissioner of the City of Houston; David Fitzgerald, Water Commissioner of the City of Houston; Kenneth Krahl, City Attorney of the City of Houston; W. J. Howard, City Solicitor of the City of Houston, and Searcy Baker, Superintendent of Police of the City of Houston.

W. J. Howard. City Solicitor of the City of Houston, and Searcy Baker, Superintendent of Police of the City of Houston, now and at all times savine and reserving to themselves all benefits and advantages of exception to the many errors, uncertainties, imperfections and insufficiencies in Complainant's bill of complaint contained, and for answer to the rule to show cause herein why an injunction should not issue against them as prayed for in Plaintiff's bill of complaint, say:

- These Defendants admit the allegations in paragraphs numbered 1 to 13, inclusive, of the first count of Plaintiff's bill of complaint.
- 2. These Defendants deny that Plaintiff's action as set forth by the first count of its bill of complaint arises under the Constitution and laws of the United States.
- 3. Defendants admit that during the year 1917, and for many years prior thereto, the Plaintiff was engaged in the telephone busi-

ness and had been charging its subscribers the rate set out in paragraph 15 of said complaint.

4. These Defendants deny that the said rates above referred to, and referred to in paragraph 16 of said complaint, have become unremunerative and produce no return on the property investment of Plaintiff, and deny that said rates are failing to pay the actual cost of furnishing said telephone service, but admit that the plaintiff submitted to the City Council on or about the 27th day of Decem-

ber, 1917, a brief statement accompanied with an applica-15 tion for an increase of rates, as set forth in said statement. That these Defendants deny that at the hearing referred to in said paragraph 16 of the bill of complaint, which was had on April 9th, 10th, 11th and 12th, 1918, the facts and figures were presented to the City Council showing that it was just and necessary that the proposed increase of rates be allowed, and deny also that the Plaintiff was losing great sums of money under the old schedule of rates, as alleged in paragraph 16. And these Defendants also deny that the expert employed by the City of Houston reported that in his opinion the telephone rates were not high enough to produce an adequate return upon the money invested in the property in the City of Houston, but that said expert reported to the City of Houston that if certain items were to be eliminated, and if The Southwestern Telegraph and Telephone Company were to be allowed excessive charges for traffic expenses and other matters set forth in the report, that a sur-charge of 18 per cent should be allowed during the period of the War in order to permit the said Telegraph and Telephone Company b make a return of seven per cent upon its property investment.

5. These Defendants admit that the City Council of the City of Houston recommended that the application of Plaintiff for an increase of telephone rates be not allowed, but deny that the Mayor of said City stated or admitted that the United States was empowered for fix rates for telephone service during war times, but that if any statement was made by the said Mayor in regard to the

matters set forth in paragraph 16, that said statement was to the effect that the Government had taken over control of the klegraph and telephone companies as a war measure, and had made contract with the telephone companies which were very liberal in heir nature, whereby the Government agreed to pay to the telephone companies not only an income of eight per cent in the way of divilends on the full amount of stock, and in addition thereto was allowed a very liberal fund for depreciation, agreed to pay interest charges and obligations upon the bonded indebtedness of the said ompanies, and that while said contract with the said companies regarded as very liberal and required more than the telephone ompanies were entitled to, that inasmuch as a state of war existed, lefelt it to be the duty of the City and of all patriotic citizens to coperate with the Government and manifest no intention during the eriod of the war to antagonize the Government in any course it semed advisable to be pursued, and for patriotic purposes, and for

such purpose only at such time, made no objection to the plan to be pursued by the Government. That while it was the purpose of the City of Houston during the existence of hostilities and the continuance of a state of actual warfare, to co-operate in every way with the United States Government and its representatives, as alleged in said paragraph 16, and not in any way antagonize the Government or at such time inquire into the legality of its acts, but that since such time conditions have radically changed, an armistice has been signed, which is generally regarded as a practical termination of his-

tilities, and conditions are now fast resuming their normal status such as existed prior to the War, and there are no reasons, patriotic or otherwise, which should require the City of Houston to submit to what it deems to be an unreasonable increase in rates by the Plaintiff company.

- 6. These Defendants do not deny the allegations in paragraph 17 of Plaintiff's bill of complaint, but say that all matters therein referred to are matters of public record, and that an examination of same will disclose the fact that no power is vested in the Postmaster General or President of the United States, by proclamation or otherwise, to fix the rates to be paid by subscribers of the Houston local telephone exchange.
- 7. These Defendants say that the matters alleged in paragraph 18 of the bill of complaint are matters purely within the knowledge of the Plaintiff company, and these Defendants are neither in a position to affirm or deny the same, but say that the execution of the contract referred to in said paragraph 18 could have no effect upon the right of the Postmaster General to fix rates for the local telephone exchange of the City of Houston; that no such power was vested in him by the Act of Congress of the United States referred to in Plaintiff's bill of complaint, and the making of a contract by the Postmaster General with the several telephone companies whereby he may have agreed to pay excessive charges would furnish no ground or reason for increasing the rate to be charged the subscribers of the Houston local telephone exchange in order to recoup

losses occasioned by the making of an improvident contract, if such it was, by the Postmaster General of the United States, but the said rates should be sufficient only to allow the complaining company to receive a sufficient return upon its investment, after the payment of its fixed charges and the allowance of a reasonable sum for depreciation.

8. Answering the allegations in the next paragraph of the Plaintiff's bill of complaint, numbered also 18, these Defendants deny that the value of the telephone property used and useful in the operation of the telephone exchange is in excess of \$5,000,000.00, but say the fact is that they are informed and believe that the value of the said properties is less then \$3,000,000.00—to be specific, \$2,731,000.00. These Defendants also deny that revenue under the existing rates is not sufficient to pay the expenses of operating the said exchange, but say that they are informed and believe, and so believing charge

the fact to be, that the revenues received from the rates charged prior to February 1st, 1919, were sufficient to pay operating expenses of said exchange, of the same was reasonably and economically operated, to allow for depreciation, to pay fixed charges and return a reasonable amount to the investor.

- 8. The facts alleged in paragraph 19 of Plaintiff's bill of complaint are peculiarly known to the Plaintiff, and these Defendants are not in a position to affirm or deny the same, and therefore ask that Plaintiff be put upon proof of such allegation.
- 9. These Defendants say that the allegations in paragraph 20 in said bill of complaint are peculiarly within the knowledge of the Plaintiff, and these Defendants are not in position to either affirm or deny the same, and say that said allegations are wholly irrelevant and immaterial, and can not be considered in the determination of the issues involved in this suit.
- 10. These Defendants deny that the hearing referred to in paragraph 21 of Plaintiff's bill of complaint was in fact a hearing; that while it is true that what was referred to and designated as a hearing was had before a representative of the Postmaster General's Department on February 8th, 1919, but said hearing amounted to nothing more than a conference between the representatives of the Postmaster General's Department and the representative and the Mayor of the City of Houston, wherein the representatives of the Postmaster General's Department advanced certain reasons why the proposed rates should be installed, and the representatives of the City of Houston advanced certain reasons why said rates should not be installed; that said hearing was not in the nature of a judicial hearing, but was had before officers or representatives who had no judicial power and had no authority or jurisdiction to enter or enforce any order, and what the instructions of the Postmaster General to this Plaintiff following said hearing were, these Defendants are not in position to know.
- 11. These Defendants deny that the Postmaster General or his representative had any power or discretion in regard to the fixing of rates to be paid by the subscribers of the Houston telephone exchange, or to enforce and collect any schedule rates.
- 20 12. These Defendants deny that they have attempted or are still attempting to prevent the Plaintiff, or anyone else, from carrying out lawful orders of the Postmaster General, but do admit that they have attempted and are still attempting to prevent the Plaintiff from enforcing and collecting the schedule of rates which were prescribed by the Postmaster General, as alleged in paragraph 22 of said complaint, denying, however, that said schedule of rates were lawfully prescribed by the Postmaster General.
- 13. These Defendants deny that they have called upon the subscribers to refuse to pay any rate they saw fit to pay, but admit that they have, in an orderly and legal manner, attempted to prevent the

Plaintiff company from charging or collecting the increase of rates charged that the said Plaintiff proposed to install, charge and collect, thus believing that the said increased rates are unreasonable, excessive and extortionate, in pursuance of what they conceive to be their legal duty as public officers they instituted legal proceedings to prevent the installing and charging of such rates, and are now prosecuting such legal proceedings for the purpose and in the hope of preventing its collection of the said rates so deemed to be unreasonable, excessive and extortionate.

14. These Defendants admit the passage of the ordinance referred to in paragraph 23 of Plaintiff's bill of complaint.

These Defendants admit that they have taken the position that the Postmaster General has no authority to regulate rates to be charged for telephone service in the City of Houston,

and it is their purpose to use all lawful means and remedies to prevent the Plaintiff, notwithstanding any instructions of the Postmaster General, to collect the rates and charges it proposes to collect from the subscribers of the Houston telephone exchange, and in this connection these Defendants say, that the attempt of the Postmaster General to install and collect the proposed rates is in fact an attempt arbitrarily upon his part to usurp and exercise an authority which was never conferred upon him by law and which he does not possess; and these Defendants say that the very law from which said Postmaster General claims to derive his authority expressly reserves to the State the right to regulate rates, and in the State of Texas this right and power to regulate rates of telephone companies has been legally delegated to the City of Houston to regulate rates to be charged subscribers of said Houston telephone exchange, and the said rates have by the City of Houston, by means of the ordinance set forth in Plaintiff's bill of complaint, been by the City of Houston, acting through its City Council in the exercise of its fair and reasonable discretion, been fixed and determined, and the said rates so fixed and determined by the City of Houston, acting as before stated through its City Council, are the fair and reasonable rates for the service rendered.

16. And these Defendants denying that the complainant has any right to further answer to the bill of complaint herein, and denying that the Plaintiff is entitled to any injunction or any other relief whatever, submits for the reasons hereinbefore recited and set forth, that the complainant is not entitled to any relief against these respondents.

All of which matters and things these Defendants are ready and willing to aver, maintain and prove as this Honorable Court shall direct, and therefore prays to be hence dismissed, with their reasonable costs and charged in this behalf most wrongfully sustained.

W. J. HOWARD, KENNETH KRAHL, Solicitors for Defendants.

For answer to the second count in Plaintiff's said bill of complaint contained, these Defendants now and at all times saving and reserving unto themselves all benefits and advantages of exception to the many errors, uncertainties, imperfections and insufficiencies in the Plaintiff's said bill of complaint contained, for answer to the rule and order to show cause why temporary injunction should not issue as prayed for by Plaintiff in its bill, say:

- 1. These Defendants admit the allegations contained in paragraphs numbered 1 to 13, inclusive, of the Second Count contained in said bill.
- Defendants admit the allegations contained in paragraphs 14 and 16 of the Second Count of said bill of complaint.
- 23 3. These Defendants deny that the rates referred to in paragraph 17 of said Second Count were or have become wholly unremunerative and produce no return whatever upon the property and investment of Plaintiff, and deny that said rates have failed and are failing to pay the actual cost to furnish the telephone exchange service referred to in said paragraph 17; but these Defendants admit that on or about December 27th, 1917, the said Plaintiff did present to the Mayor and Commissioners of the City of Houston a statement similar to that referred to and set out in said paragraph 17.
- 4. These Defendants admit that there was a formal hearing held before the City Council on the dates set forth in paragraph 20 of said Second Count of the bill of complaint and at the time therein set out; but these Defendants deny that the Plaintiff produced facts and figures showing that it was just and necessary that the proposed increase in rates be allowed and that Plaintiff was losing considerable money under the old schedule of rates, and these Defendants deny the allegations contained in said paragraph 20, that the Engineer who was employed by the City of Houston employed arbitrary and erroneous methods in arriving at the valuation of Plaintiff's property, and undervalued the property which constituted Plaintiff's local exchange in the City of Houston. These Defendants deny that the Engineer so employed by the City of Houston undervalued the said properties to a sum amounting to \$2,375,864.00, or in any other sum, and as they are informed and believe, and so believing charge the fact to

be, that the valuation made by the said Engineer so employed 24 by the City of Houston was properly made and showed the fair and reasonable value of the said property to be less than

\$3,000,000.00, to-wit, \$2,731,000.00.

5. These Defendants deny that the said Engineer so employed unconditionally reported that the Plaintiff was entitled to an increase of the telephone rates of 18 per cent in order that it might realize 7 per cent on its investment in the local telephone exchange system of the City of Houston, as alleged in said paragraph 20, but the said Engineer merely reported that if certain items which he contended

should not be allowed the Plaintiff company were allowed, that it would be necessary to increase the telephone rates 18 per cent in order that said return of 7 per cent might be had; but it appears from the report of said Engineer that upon a proper method of determining the earnings of the said Plaintiff company, it was realizing a reasonable return upon its investment.

6. These Defendants admit the passage of the ordinance mentioned and referred to in paragraph 21 of said Second Count of said bill of complaint, but say that the said ordinance is not binding upon the City of Houston in such a way as to entitle the Plaintiff to an increase of rates upon every temporary change of condition which might tend to increase the cost of operation temporarily, or which might tend to increase the value of Plaintiff's property based upon a reproduction value; that said ordinance was passed during a period of normal conditions and was intended to apply and should

apply only to normal conditions, and that the City of Houston had no power by ordinance, contract or in any other manner to waive or surrender its right of police regulation over the said Southwestern Telegraph and Telephone Company, including its right to determine the rates which could be charged by the said company.

7. These Defendants admit that the City of Houston, as alleged in paragraph 22 of said bill of complaint, refused to allow any increase whatever in the rates that were being paid by the subscribers to the Houston telephone exchange, but they deny that the said Plaintiff, in accordance with the ordinance set out in said paragraph 21 of the said Second Count, or in any other manner presented to the City Council of the City of Houston facts and figures showing that the said Plaintiff was entitled to an increase of the rates then in force, and they deny that the facts and figures presented by the Plaintiff reasonably prove that there existed a necessity for an increase in charges of the rates in order that Plaintiff might earn a fair return upon its capital actually invested in the Houston plant. And these Defendants deny that the facts and figures submitted by the Plaintiff to the City Council, as alleged in said paragraph 22, showed that the said Plaintiff company was annually sustaining a loss and not earning anything for dividends or the payment of inter-That while the computations and statements submitted by Plaintiff were so computed as to show what was termed a net loss, that said figures and computations were not accepted as correct, and

the said City of Houston employed an expert to investigate the values of the said Plaintiff company, and all other matters affecting its right to an increase of rates, and the report of the said Engineer so employed refuted the contention of Plaintiff that it was not earning anything upon its investment in the Houston telephone exchange, and the said report of said Engineer further showed that the Plaintiff was realizing a substantial return upon its investment, even after allowing the Plaintiff company many large items, which, in the opinion of said Engineer, it was not entitled to.

8. Answering the allegations in paragraph 24 of the Second Count of said bill of complaint, these Defendants say, that they have not the information at hand to state the amount of revenues received by the Houston telephone exchange during the year 1918, or the amount of its total expenses, but they do not believe that the expenses of the exchange for said year exceeded its income, and so believing, deny said allegation. And further answering the allegations in said paragraph these Defendants say, that they understand and believe, and so believing charge the fact to be, that the Plaintiff company keeps no accurate books showing the income which should properly be credited to the Houston telephone exchange; that a large part of the earnings of the said exchange exists in the handling of what are known as long distance calls, and the Plaintiff, as these Defendants believe, so carry on their system of audits and accounting as to allow but a small portion of the revenues resulting from long distance calls handled by local exchanges to such local exchange

in which the calls originated. And these Defendants further 27 say in answer to the allegations of paragraph 24, that the said Southwestern Telegraph and Telephone Company is the owner of and conducts many local exchanges, as well as long distance lines, and the said company itself, in turn, is practically owned or dominated by a larger telegraph and telephone organization to which it is required and compelled to pay tribute; and as these Defendants are informed and believe, there is no method or system of bookkeeping by which even the Plaintiff itself could accurately state all of the items charged as expenses in operating the Houston telephone That it is, as these Defendants are informed and believe. the habit or practice of the said Plaintiff company to arbitrarily charge against the Houston telephone exchange certain portions of the expenses incurred generally by the said Plaintiff, as well as a portion of the expenses of its parent company, or the company that dominates and controls it, and these Defendants believe, and so believing charge the fact to be, that upon a proper method of computation the receipts of the Houston telephone exchange are greatly in excess of the operating expenses of said exchange, and in such an amount as to make a reasonable return upon the capital investment.

9. Defendants admit that the rates mentioned in paragraph 25 of said Second Count have, as alleged therein, been in effect since about the year 1901, but deny that said scheduled rates have never produced more than a fair return, and it is the information and belief of Defendants that for many of said years the return on the investment

of the Plaintiff was a very liberal one, and Defendants deny that the expenses involved in the operation and maintenance of the Houston exchange have steadily increased until Plaintiff was compelled to increase its rates on February 1st, 1919, to prevent any further losses on its investment in the City of Houston, but charge the fact to be that any increase in the cost of maintenance and operation have not been steady, but have been due to abnormal and temporary conditions, the cause of which has now ceased, and there is no reason why the said expenses of maintenance and opera-

tion should not speedily return to normal. These Defendants admit of the passage and existence of the ordinance set out in said paragraph 25.

- 10. Answering paragraph 26 of said Second Count, these Defendants are not in a position to say what the Plaintiff would have done had it not been for the ordinances above referred to, but they have no reason to believe that Plaintiff would not have raised the rates, as indicated in the allegations contained in said paragraph.
- 11. Answering the allegations of paragraph 27 of said Second Count, these Defendants deny that Plaintiff's telephone exchange property within the boundaries of the City of Houston, with the necessary working capital, is in excess of Five and One-half Millions of Dollars, but say the fact is, as they are informed, as they believe reliably, that the fair and reasonable value of said properties, based upon proper method of valuation, is less than Three Million Dollars, to-wit, \$2,731,000.00.
- 29 12. These Defendants, upon information and belief, deny the allegations in paragraph 28 of said Second Count, and in this connection say, that it is their belief, and so believing charge the fact to be, that if the Houston telephone exchange is allowed credit for all of the revenues to which it is properly and legally entitled, and if it is charged with no operating expenses other than those with which it should be fairly charged, the revenues from the said exchange produced by the rates heretofore in effect would greatly exceed the expenses of the operation of the said exchange.
- 13. While these Defendants admit that the rates as fixed and continued and established under the ordinance referred to in paragraph 29 have been actually tried out by the Plaintiff for a number of years, to the abandonment thereof and the announcement of its new schedule, they deny that said trials have shown such rates to be unreasonably low, and say that the fact is that although the said schedule of rates have been in force as admitted by the Plaintiff in their bill, from the year 1901 to practically the end of the year 1917, there has never been any complaint whatever made by the said Plaintiff company in regard to the said rates, nor had there, so far as these Defendants know or believe, been any application for an increase of rates, but said application for increase of rates was on account of the increase in expense of operation, brought about by abnormal conditions caused by the War, and as these Defendants believe in furtherance of a plan conceived by the Plaintiff to seize upon war prices and get permanent rates fixed, based upon

30 reproduction values at a time when all material and labor was abnormally high on account of temporary conditions occasioned by the great war in which this country, together with the greater number of the countries of the world, were engaged.

14. Answering the allegations of paragraph 30 in said Second count, these Defendants say that while there may have been an increase recently in the cost of operating the Houston exchange, such

increase was due to the abnormal conditions caused by the War, and these Defendants deny that said operating costs have increased as alleged in said paragraph, and they deny that the cost of operating and maintaining said exchange greatly exceeds and will continue to exceed the increase in revenue under the old rate schedule fixed by the City Ordinances above referred to, and they deny that such ordinance is confiscatory and, if enforced, will continue to confiscate the Plaintiff's property in the City of Houston, but say the fact is that the natural tendency is for the cost of operating the said exchange to resume the normal and for the price of material and labor to decrease, the cause which brought about such increase in the cost of operation no longer exists, and the fact is that many materials used in the operating of said exchange have, since the signing of the armistice, shown a marked decrease.

15. While it is not denied that the City of Houston is a reasonably "prosperous community," as alleged in paragraph 32 of said Second Count, still, there are a great number of people who are now subscribers to the service furnished by the Houston telephone exchange who are unable to pay the increased rate of 50 per cent, which it is proposed by Plaintiff to collect. That there are, as these Defendants believe, hundreds, if not thousands, of citizens of said community upon which the increased rates will work a great hardship, and to many it will result in depriving them of their phone service, which has become a practical necessity and a valuable

property right to be thereby confiscated.

16. The Defendants deny the allegations of paragraph 33, that the rates fixed by the ordinances above referred to are confiscatory, unreasonable and insufficient to permit said telephone company to operate its telephone exchange without actual loss, and deny that said rates are wholly insufficient to permit Plaintiff to earn any profits on its business or any return on its investment, and denies that such ordinance in any way contravenes any provision of the Constitution of the United States or of the State of Texas, which prohibits taking of property without due process of law, or which may guarantee to all persons the equal protection of the law; but the fact is, as these Defendants are informed and believe, the rates fixed by said ordinance are sufficient to pay all fixed charges, operating expenses, allow reasonable funds for depreciation, and allow a reasonable return upon the investment.

17. Answering the allegations in paragraphs 34, 35, 36, 37, 38 and 39 of said Second Count, these Defendants say that while it is probably true that some of the subscribers to the Houston telephone exchange have their phones without the City limits of the City of Houston, that such subscribers, when compared with the whole number of subscribers to said exchange, are very few; the other allegations set up in the said paragraphs are merely conclusions of law, which these Defendants are not in a posi-

tion to answer.

- 18. Answering the allegations in paragraph 40 of said Second Count, these Defendants deny that the penalties prescribed by the ordinance referred to in said paragraph are excessive.
- 19. Answering the allegations in paragraph 41, these Defendants say that if any of the penalties referred to in said paragraph are incurred by the Plaintiff, it will be on account of their violation of the valid, legal and reasonable ordinances of the City of Houston; that the said ordinances, as these Defendants are informed and believe, prescribe fair, just and reasonable rates for the service to be rendered by the Plaintiff, and the enforcement of the said ordinances by the said City of Houston will be but a fair and reasonable exercise of the police power of said City.
- 20. These Defendants deny that the ordinances referred to in paragraph 42 of said Second Count are void or confiscatory in their nature, or that they deprive the Plaintiff of property without due process of law.
- 21. These Defendants deny the allegations in paragraph 47 of said Second Count, that the losses sustained by Plaintiff will amount to not less than \$14,000.00 per month, but say that they are informed and believe, and so believing charge the fact to be, that the said Plaintiff is, under the rates heretofore existing, earning sufficient not only to pay all operating expenses, fixed charges ad provide for a depreciation fund, but in addition thereto sufficient to pay a fair and reasonable return upon its investment.
- 22. These Defendants deny the allegations in paragraph 48 of said Second Count, wherein it is alleged that by the giving of an appropriate and sufficient bond or other security, that the City of Houston and the other Defendants and the people and Plaintiff's subscribers and patrons will be suitably protected if it should be finally determined that this Plaintiff is not entitled to charge and collect the schedule of rates which was put in effect February 1st, 1919, and say that the fact is that the tendering of said bond is but a specious argument advanced for the purpose of making it appear that Plaintiff's bill presents equity. That the fact is that the said bond or other security tendered will not protect the City of Houston and the other Defendants, or the people of the City of Houston or the subscribers to the Plaintiff's telephone exchange. method will compel the Defendants and the people of the City of Houston, and the said subscribers, to advance or loan money to the Plaintiff under penalty of being deprived of the telephone service which they have heretofore had. That hundreds, if not thousands, of the said subscribers cannot afford to make such loan or advancement, and that for many of them to make such loan or advancement to the said Plaintiff would impose a great hardship and burden upon many of the said subscribers; and as these Defendants are

34 informed and believe, many of them who have a fixed small salary or income which is now barely sufficient for the support of themselves and their families, will, if they are required to make such loan or advancement as a condition precedent to the

procurement of the telephone service which they have heretofore had. be compelled to forego such service, whereby they will be deprived of a valuable property right, the use of a telephone having, under existing conditions, become practically a household necessity, and particularly so to the poorer classes of subscribers who can not afford to employ servants, and the use of the telephone in ordering household necessities is practically indispensable. That moreover, the rates which the Plaintiff proposes to install are very generally considered by the subscribers as unreasonable, excessive and extortionate. and many subscribers who would be able to make the loan or advancement required by the bond method suggested by the Plaintiff would feeling that the collection of the proposed rates would be an imposition, remove their phones as these Defendants believe, and by the removal of each phone the number of subscribers or persons who could be reached by the subscribers who retained the service would be reduced and the efficiency and usefulness of the telephone service would thereby be greatly impaired, if not wholly disrupted.

Further answering the allegations of said paragraphs 48 and 49, these Defendants say, that the facts present no such condition as would justify or warrant a change in the present rates pending the final hearing of this litigation whereby the status now exist-

35 ing between the Plaintiff company and its subscribers would be changed, many telephones would in all probability be discontinued, the use of the phones to those who retained the service would be curtailed, and the value and efficiency of the service would be greatly impaired, if not practically disrupted; that the losses claimed by the Plaintiff company, even if they existed, are, as disclosed by its bill of complaint, due to abnormal conditions caused by the War; that it was and is the duty of the said Plaintiff company to bear its portion of the burdens of war; that during the period of the war it was a principle recognized by all patriotic citizens that no one should obtain profits during the war, and if the Plaintiff during the period of the war, on account of the increased cost of material and labor, has been deprived of an income on its property, or if it even sustained a slight loss, its experience is but the common experience of all American citizens who adopted the proper view point in regard to earnings during the period in which the country was involved in the great struggle from which the world has just emerged.

As shown by Plaintiff's bill, from the year 1901 until the latter part of the year 1917, it, without complaint, operated under the rates in force prior to February 1st, 1919, and that the lack of earnings, or even slight losses, if any such were sustained, were directly due to the temporary and abnormal conditions brought about by the War; that the War has now practically terminated and the tendency is toward lower cost of labor and material, whereby

the tendency is toward lower cost of labor and material, whereby
the conditions existing prior to the War and the conditions
prior to 1917 will be restored; that many of the materials
necessary in the operation of the telephone company have
since the War greatly declined, and it would be but fair, just and
equitable for the plaintiff to continue the rates heretofore existing

for such a period as will permit it to be determined whether the prewar conditions under which it was enabled to earn proper returns upon its investment will be restored; but as these Defendants believe and say, and believing charge the fact to be, it is not the purpose of the Plaintiff merely to enforce increased rates such as will enable them to pay their operating expenses and a return on their investment during the temporary abnormal period, but that the said Plaintiff has seized upon the abnormal conditions that have existed in the country for the past two years and is undertaking to have permanent rates established based on the high cost of operating expenses, and to have established a rate that will pay a fair return upon its investment, not at cost price of the cost of reproduction in normal times, but upon the cost of reproduction based upon values that are unusually and abnormally high on account of the conditions caused by the War and upon values greatly in excess of the amount actually invested by the Plaintiff, whereby the Plaintiff will be permitted and enabled to recover not only a fair return upon its capital investment, but also upon the profit realized by having its properties valued at the peak, that is, at the very highest point known to the history of the company, and which was occasioned by abnormal conditions, such values being temporary and subject to rapid decline to normal. These Defendants say

37 that under these circumstances the Plaintiff should be required to try out the rates heretofore existing for a reasonable time, that it may be determined if normal conditions will not again prevail, before they are permitted by the mere giving of a bond to disturb and to a great extent disrupt the telephone service of the City of Houston.

And these Defendants further answering paragraphs 48 and 49, say that the said bond does not afford adequate protection, because there are some 25,000 subscribers to the telephone exchange of the City of Houston, which will require the expenditure of vast amounts in keeping books and accounts that should be saved to the people or be used in providing better telephone service for the subscribers, and that even if said sums are expended in the keeping of such additional accounts or amounts, it will be necessary for each subscriber to collect back his own individual excess payment and he will be entirely at the mercy of the Plaintiff, for should it decline to refund the subscriber, in order to collect back such excess payments he would be compelled to resort to the Courts and incur the expense of collecting, which would be out of proportion to the amount involved, and in a great majority of cases it is probable the subscriber would rather forego the collection of the excess payment than incur the expense and trouble necessitated in compelling the refund.

23. Further answering said bill of complaint, these Defendants say that the said Southwestern Telegraph and Telephone Company is not now furnishing good and sufficient service to the subscribers and users of the telephone service in the City of Houston, that there is great difficulty in getting connection with the Central exchange, and after Central answers, in very numer-

ous cases it is an unreasonably long time before connection is made putting the subscriber in connection with the station which is called: in very numerous cases the wrong number or station is called, and often after connection and the conversation is being held by subseribers, the lines are discontinued and the connection interrupted; and often the number of one of the phones not being known, the conversation is entirely terminated, and the said service in many ways too numerous to mention is inefficient and far below what constitutes standard or reasonable telephone service; and even if it should be determined that said Plaintiff company is not now receiving a reasonable return upon the amount of its capital and property invested in the Houston telephone exchange, which these Defendants say they have reason to believe and do believe is not the case. still these Defendants and the subscribers to the telephone service furnished by the Plaintiff in its Houston telephone exchange are obligated and bound to pay only such sum or rate as the character of the service furnished is reasonably worth, and that the rates now in force as fixed by the ordinances of the City of Houston are fair and reasonable rates for good service; but even if they were not sufficient for good service, the service furnished to the subscribers by the Houston telephone exchange is not good and efficient service, nor reasonably efficient, and taking into consideration the inefficient

character of the service furnished by said Defendant company the said rates as now fixed by the said ordinances of 39 the City of Houston are more than the service furnished is

reasonably worth.

24. That regardless of the return on the capital investment, the telephone service now furnished to subscribers of the Houston telephone exchange, even if it was efficient, is not worth the increased rates the said Plaintiff is so seeking to install and collect, and said service is worth no more than the rate now provided for in the said City ordinances set up in Plaintiff's bill of complaint.

25. These Defendants further answering say, that there are many economies that could be put in effect by the Plaintiff company whereby a large portion of the operating expenses of the said Houston telephone exchange would be eliminated; that the said Plaintiff company is paying excessive amounts for administration supervision, and that by procuring the said administration supervision at a fair and reasonable cost, its operating expenses would be greatly reduced, and its net revenues and the return upon its investment greatly increased, to-wit, in the sum of not less than Eleven Thousand, Five Hundred and No/100 (\$11,500.00) Dollars. siad Plaintiff company is incurring unreasonable and excessive traffic expenses; that by a proper and economic operation of the Houston telephone exchange, the traffic expenses could and should be reduced in a large amount, to-wit, approximately Sixty-five Thousand and No/100 (\$65,000.00) Dollars, which could be added to net revenue and greatly increase the earnings of the said Plaintiff com-40

pany, resulting in a very substantial addition to the return upon the capital invested by the said company in the Hous-

ton telephone exchange.

- 26. That the said Plaintiff company is not now charging a sufficient amount for the toll service rendered and furnished by the Houston telephone exchange. That there should be charged in addition to the amount that is now being charged for such service an additional sum of at least Ten Thousand and No/100 (\$10,000.00) Dollars, whereby the net earnings of the said Houston telephone company would be increased by said sum, and the yearly return upon the capital investment in the said exchange would be greatly increased. That there is charged to the operating expense of the Houston telephone exchange expenses incurred in handling the long distance tolls, in excess of the amount received by the local exchange for the service so rendered.
- 27. That the said Plaintiff company is owned by the American Telegraph and Telephone Company, that is, all the stock of the Plaintiff company is owned by the said American Telegraph and Telephone Company; that the said Southwestern Telegraph and Telephone Company operates numerous exchanges in the State of Texas and other States of the Southwest; that the said Plaintiff company, as these Defendants are informed and believe. allocates to the Houston telephone exchange and charges to the operating expenses of such exchange large amounts that are not properly chargeable to such operating expenses, and the said Plaintiff company fur-

ther pays to the parent company, or dominating company, the said American Telegraph and Telephone Company, large amounts for alleged services that do not constitute proper charges to operating expenses of the Houston telephone exchange, and by the elimination of these charges the net revenues of the Plaintiff company can be greatly increased.

- 28. These Defendants further answering say, that the Plaintiff claims too large an amount for depreciation reserve; that it is claiming the right to collect from the earnings of the said Houston exchange the sum of 6 per cent, or more, upon all its physical properties to take care of the plant at the end of its useful life and to restore the effects of rot, rust, decay, obsolescence, etc., which said amount is excessive by at least 2 per cent.
- 29. Further answering, these Defendants say that Plaintiff is estopped to claim any other valuation upon its property, used and useful in the Houston telephone exchange, than the cost valuation, for this:
- (a) That for many years prior to the year 1917, it, in compliance with the requirements of certain ordinances passed by the City Council of the City of Houston, and effective as valid ordinances, filed with the City its valuation based entirely upon the original cost of the property, and that it was not until 1917, when the cost of material and labor had greatly advanced, that any claim of valuation upon the reproduction method, in order to determine rates, was asserted or claimed.

(b) That in what is known as the Merger Ordinance, same being Sub-section "E" of Section 1 of an ordinance passed May 10th, 1915, by the City Council of the City of Houston, and entitled: "An ordinance authorizing the consolidation and merger of the Houston telephone exchange of The Southwestern Telegraph and Telephone Company and the telephone exchange of the Houston Home Telephone Company," prescribing the terms and conditions of such consolidation and merger and declaring an emergency, it was provided that the Plaintiff could earn a fair return upon its capital actually invested in the Houston plant, it being agreed that for a term of five years from said date that a fair return upon said capital and investment should not be less than 7 nor more than 8 per cent; and the said Plaintiff company, by accepting the said ordinance, which it did do, contracted, agreed and bound itself not to require a return upon anything other than the capital actually invested in the Houston plant, and said Plaintiff is now estopped by reason of said ordinance and the acceptance thereof by it, of asserting any value to said property used in the Houston telephone exchange greater or other than that of the original cost of said property.

30. These Defendants denying that the complainant has any right to further answer to the bill of complaint, and denying that Plaintiff is entitled to any injunction, or any other relief whatever, submits for the reasons hereinbefore stated and set forth, that the Plaintiff is not entitled to any relief against these respondents, all of which matters and things these Defendants are willing to aver, maintain and prove, as this Honorable Court shall direct, and therefore pray

to be dismissed hence with their reasonable costs and charges

in this cause most reasonably sustained.

W. J. HOWARD, KENNETH KRAHL, Solicitors for Defendants.

STATE OF TEXAS, County of Harris:

Before me, the undersigned authority, on this day personally appeared A. E. Amerman, the Mayor and chief executive officer of the City of Houston, who being first duly sworn, on oath states: That he is the Mayor of the City of Houston, one of the Defendants in the above entitled cause, and that he has read the foregoing answer and knows the contents thereof, and that the matters and things stated therein as facts are true, and that the matters stated upon information and belief he verily believes as true.

A. E. AMERMAN.

Subscribed and sworn to before me by the said A. E. Amerman this 24th day of March, A. D., 1919.

[SEAL.]

P. C. DEL BARTO

P. C. DEL BARTO, Notary Public in and for Harris County, Texas. 44 (Endorsed on Back:) No. 108. In Equity. In the District Court of the United States for the Southern District of Texas, Houston. Southwestern Telegraph & Telephone Company vs. The City of Houston, Texas, et al. Answer. Filed 24th day of March, 1919. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

45 Order Appointing J. Llewellyn Special Master.

Filed August 27, 1919.

United States District Court, Western District of Louisiana.

No. 108.

In Equity.

SOUTHWESTERN TEL. & TEL. Co.

VS.

CITY OF HOUSTON.

This case now being at issue, the Court considering that the services of a Master are necessary to aid the Court and economize its time, and for the purpose of exepediting the final hearing of said cause, the Court on its own motion appoints J. Llewellyn of Liberty Tex., Special Master herein.

It is further ordered that this case be referred to said Master to take the evidence and report his findings of fact and conclusions of

law thereon.

The said Special Master is authorized to set the case for hearing at such time and place as in his opinion may be most convenient to all parties.

GEO. WHITFIELD JACK, Judge.

August 25, 1919.

Endorsements: No. 108 Eq. The Southwestern Telegraph & Telephone Co. vs. The City of Houston et al. Order appointing J. Liewellyn Special Master. Filed 27th day of Aug. 1919. L. C. Masterson, Clerk, by J. L. Sexton Deputy. Stencil: U. S. District Court. Filed Aug. 25, 1919. W. B. Lee, Clerk West Dist. of Louisiana.

46

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Report of Special Master in Chancery.

Filed June 7, 1920.

In the District Court of the United States for the Southern District of Texas, Houston Division.

No. 108.

In Equity.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY, Plaintiff,

versus

THE CITY OF HOUSTON et al., Defendants.

Report of Special Master in Chancery.

To the Honorable George Whitfield Jack, Judge:

This cause was referred to me as a Special Master by the Court on August 25, 1919. The order of reference directed that I take the evidence and report to the Court my findings of fact and conclusions as to the law, arising thereon. This order authorized the hearings necessary at such times and places as might be most convenient to all concerned.

General Statement.

The plaintiff, the Southwestern Telegraph and Telephone Company, is a New York corporation having a permit to do business in the State of Texas and owns and operates a local telephone plant in the City of Houston in said State. The defendants are the City of Houston a municipal corporation organized and existing by virtue of a special charter granted to it by the State of Texas, and Hon. A. E. Amerman, Mayor and Dan M. Moody, H. A. Halverton, Matthew Drennan and David Fitzgerald, who constitute the City Council of the City of Houston and Searcy Baker, its Chief of Police.

The action os of a civil nature and the matter in controversy exceeds the sum or value of Three Thousand Dollars (\$3,000.00) and arises under the Constitution and laws of the United States. The plaintiff is a citizen of the State of New York and the defendants are all citizens of the State of Texas. It was found that it would be more convenient for counsel and the witnesses to hold the hearings in the City of Houston and said hearings were, therefore held in Houston in the Federal Building and in the Council Chamber in the City Hall when available and, when not, in the Conference Room in

the Telephone Building. The hearings were begun on December 15, 1919, and were concluded April 24 1920, forty one days being consumed in taking the testimony.

Messrs. C. R. Triay and P. G. Houchins, court reporters, were employed to report the proceedings, their fees being paid by the plaintiff and defendants jointly on accounts approved by the Master according to arrangements made prior to the commencement of the hearings between the parties to the suit and the court reporters, with the approval of the Master. The total fees, one half of which were paid by the plaintiff and one half by the defendants amounted to \$3,799.90. \$2,443.45 being for per diem and \$1,356.50 being for

extra copies furnished counsel.

As indicated by the number of days consumed in the hearings and the amount of money paid the court reporters, a vast amount of testimony, both oral and written was received, accompanied by a large number of various kind of exhibits. Statements were made by counsel for both the plaintiff and the defendants and carried into the record with quotations from numerous decisions and citations of various authorities, making in all quite a bulky and extensive record. It was found desirable to take recesses at intervals during the hearings owing to other engagements on the part of the Master and counsel for the plaintiff and defendants as well as the

inability of witnesses to appear at particular times.

The case was developed by both sides with exceeding care, evidencing thorough preparation. It may not be amiss at this time to say that counsel for the parties evidenced thorough acquaintance with the law and facts involved. They were uniformly courteous and considerate and gave the Master every assistance possible to arrive at proper conclusions upon the various questions involved. They have filed trial briefs which were submitted to me on May 10, 1920, which are made a part of the record herein, which forcibly and thoroughly present the views of counsel with reference to matters at issue. With all it was a very pleasant and instructive proceeding from the standpoint of the Master though necessarily tedious and long drawn out.

The Issue.

The question to be determined by the Court is whether the value of the plaintiff's property in Houston is confiscated by the application of the rates fixed for telephone service by the ordinance of the City adopted in the year 1909, same being Section 990 of the Revised

Code of Ordinances of the City of Houston. The law of the case seems to be settled by the decisions of our courts of last resort that a court of equity will intervene only to prevent the unlawful taking of property without just compensation in rate controversies. The court has no concern as to a rate fixed, unless such rate has the effect of confiscating the value of property.

As to the facts, I understand that the burden of proof is upon the plaintiff, if not to show by "clear and convincing" proof, to show by a preponderance of the evidence that the rates fixed are con-The rates fixed by the ordinance in question were fixed by the City Council of the City of Houston. The testimony should be strong enough to overcome the presumption that ordinarily obtains that public officers do their duty. To be entitled to the relief sought herein plaintiff should show when the City Council after the period of Government control, sought to impose the rates fixed by the ordinance of 1909 that such body was acting without due regard for plaintiff's rights, the presumption obtaining in the absence of proof to the contrary, that such action was warranted under the then

existing facts.

A correct solution of the one question involved necessitates a finding as to what is the present value of the property used and useful in the service of the public, the amount of net income, if any, produced under existing rates fixed by the ordinance in question, after deducting from the gross income proper charges for the expenses of operation and an allowance of a correct amount as a reserve for depreciation, and what constitutes a fair return at this time on the value of the property so used and useful under existing circumstances.

After all, the property used by plaintiff in furnishing telephone service in the City of Houston belongs to The Southwestern Telegraph and Telephone Company. No element of partnership in the ownership of this property exists between this corporation and the City of Houston or its citizenship. The value of this property is protected to the owner thereof from confiscation by the Constitution of the United States, as well as the State of Texas. This constitutional guarantee operates upon the present value of the property and not upon what it cost the owner or some prior owner years ago. If the property has increased in value while in the hands of its owners, such owners are entitled to the benefit of such increase, as had it been destroyed or had it lessened in value, the owners alone would have borne this loss. This is true notwithstanding such property may be devoted to public utility purposes. These views 49 are expressed in the decisions of the courts quoted below:

In the Minnesota Rate Cases, 230 U. S. 352, 454, 458,

The Supreme Court said:

"It is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment. If that has been reckless or improvident, losses may be sustained which the community does not underwrite. As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership, and it is that property and not the original cost of it, of which the owner may not be deprived without due process of law.

It must be remembered that we are concerned with the charge of confiscation of property by the denial of a fair return for its use; and to determine the truth of the charge there is sought to be ascertained

the present value of the property.'

In Wilcox vs. Consolidated Gas Company 212 U. S. 19, 52, the Supreme Court said:

"And we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired the company is entitled to the benefit of such increase."

In Consolidated Gas Company vs. City of New York, 157 Fed. 855, The Court said:

"The value of the investment of any manufacturer in plant, factory or goods or all three, is what his possessions would sell for upon a fair transfer from a willing vendor to a willing buyer, and it can make no difference that such value is affected by the efforts of himself or others, by whim or fashion or (what is really the same thing) by the advance of land values in the opinion of the buying public. It is equally immaterial that such value is affected by difficulties of reproduction. If it be true that a pipe line under New York of 1907 is worth more than was a pipe line under the city of 1827, then the owner thereof owns that value and that such advance arose wholly or partly from difficulties of duplication created by the city itself is a matter of no moment. Indeed, the causes of either appreciation or depreciation are alike unimportant, if the fact of value be conceded or proved; but that ultimate inquiry is so often so difficult that original cost and reasons for changes in value become legitimate subjects of investigation, as checks upon expert estimates or bookkeeping inaccurate and perhaps intentionally misleading. Cf. Ames v. Union Pacific R. R. (C. C.) 64 Fed., at pages 178, 179. If 50 years ago, by the payment of certain money, one acquired a factory and the land appurtenant thereto and continues today his original business there his investment is the factory and the land, not the money originally paid; and unless his business shows a return equivalent to what land and building, or land alone would give if devoted to other purposes (having due regard to cost of change) that man is engaged in a losing venture, and is not receiving a fair return from his investment The so-called "money value" of real or i. e., the land and building. personal property is but a conveniently short method of expressing present potential usefulness and "investment" becomes meaningless if construed to mean what the thing invested in, cost generations ago. Property whether real or personal is only valuable when useful. usefulness commonly depends on the business purposes to which it is or may be applied. Such business is a living thing, and may flourish or wither, appreciate or depreciate; but whatever happens, its present usefulness, expressed in financial terms, must be its value.'

In the case of the City and County of Denver vs. Denver Union Water Company 246 U. SS. 178, decided by the United States Supreme Court on March 4, 1918, the following language is found:

50 "There can be no question of the company's right to adequate compensation for the use of its property employed, and necessarily employed in the public service; nor can it be doubted that

the property must be valued as property in use. * * * What we have said establishes the propriety of estimating complainant's property on the basis of present market values as to land and reproduction cost, less depreciation as to structures."

In my judgment the above quotations most admirably epitomize the fundamental rules to be applied to the correct solution of the controversy in this case. It is a matter of small importance that the rules there stated agree with my sense of what the law should be. It is the law laid down by the court of last resort and whether we approve of the holdings there made or not, we are nevertheless bound thereby.

The Value of the Property.

The first and probably the most important question to be answered in this case is what is the real value of plaintiff's property used and useful in the service of the public in the City of Houston. No absolute answer can be given to the question. Any figure fixed necessarily cannot be mathematically and absolutely exact. Value is not a matter to be determined by a mathematical formula. We can only hope to approach a correct answer by exercising a reasonable judgment after a careful consideration of all the relevant facts. sult attained will always be affected by the soundness of the judgment of the particular person expressing the opinion as to the value. No two minds would be able to consider this record and arrive at identical conclusions with reference to the value of the property. But the question notwithstanding its difficulty and the frailty of the human mind, must be answered. At best we can hope to reach a reasonably correct approximation. The discussion of value and of the method of ascertaining the same in the opinion of the Minnesota rate cases, 230 U. S. 350, quoted below especially commends itself to the In that case the court said:

"The ascertainment of that value is not controlled by artificial It is not a matter of formula, but there must be a reasonable judgment, having its basis in a proper consideration of all relevant facts. The scope of the inquiry was this broadly described in Smyth v. Ames (169 U. S. pp. 546, 547) 'In order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present, as compared with the original, cost of construction, the probable earning capacity of the property under particular rates prescribed by statute and the sum required to meet operating expenses, are all matters for consideration and are to be given such weight as may be just and right in each case. We do not say that there may not beother matters to be regarded in estimating the value of the prop-What the company is entitled to ask, is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth."

51 If we were seeking to ascertain the value of a commodity such as wheat oats or corn which is being bought and sold daily on the open market, a reasonably satisfactory judgment as to the value thereof could be obtained thereon by adopting as the value. the market quotations. In the consideration of the value of this property we have no such satisfactory guide, because no plants such as this are being bought and sold daily on the open market. When we seek to determine the value of something that has no market value in the ordinary sense of that term, some other method or means of determining the question must be evolved. If we desire to know the value of a structure or other thing of value that is not being sold on the open market, the first and paramount measure of value seized upon by the human mind is the question of what would it cost to reproduce the structure or article at this time. To my mind what it would cost to reproduce the property or one of like kind under existing circumstances is one, and perhaps the best measure of its value.

In the case of Des Moines Gas Company vs. City of Des Moines 238 U. S. 168, the Supreme Court quoting with approval the report

of the Master, said:

"It is not a question of what was actually expended in the plant in question, but what would it cost to reproduce a similar plant at the present time. It is through this method we reach the present value of this plant new, and then when it is properly depreciated, according to the condition, life and age of its various parts, we reach the present value of the plant in its present condition. It is not a perfect method but it is the best method therefor, and results as nearly as possible in giving the present value of the plant. No other method known has proved so satisfactory."

Manifestly the cost of reproducing a particular thing does not fix its value for the reason that numerous other factors enter into the question of value. What a structure cost years ago furnishes but little evidence of its present value. It is a matter of common knowledge that a building, for instance, that was valued at \$50,000 five years ago could now be sold on the open market for largely in excess of that sum. At the same time, in arriving at the value of anything at this time we must take into consideration that there has been an abrupt rise in commodity and labor prices-I believe that these prices will go down. As one of the witnesses expressed it, he hoped they Many people, including one of the would go down gradually. witnesses, at lease, believe that process will recede. The fact that numerous people believe that prices will recede in the future affects

the value of property whether in fact they do recede or not. I think these views as to the law to be applied and the 52 method of ascertaining the value, but follow the rules laid down for out guidance by the Supreme Court in the cases above

quoted and other cases cited in the briefs on file herein.

In ascertaining the value of this property I can be guided only by the law and by the evidence introduced. Believing that the

reproduction cost under normal circumstances affords the strongest evidence of value and that the original cost furnishes but little evidence of present value, it follows that I am attaching in these findings considerably more weight to the testimony as to value based on the reproduction theory than that based alone on the historical or cost value. The weight to be given to the testimony of the various witnesses is clearly recognized and aptly expressed by defendants' counsel in their brief on page 18 thereof. They say:

"We will not undertake to discuss the evidence of the numerous witnesses introduced by the plaintiff who undertook to show the reproduction costs of this property. If that method is adopted by the Court we could not hope to minimize the value within any reasonable limits."

The plaintiff in the case introduced several witnesses in whose testimony I could detect no evidence of personal insincerity whose opinion as to value necessarily carried weight, for the reason that they showed themselves thoroughly conversant with property of this

character and methods of valuing same.

As of October 1, 1919, a complete inventory of the physical property belonging to the plaintiff in the City of Houston was taken and made up by Mr. F. M. Hoag, or under his direction. This inventory seems to have been taken with a great deal of care and I believe it fairly shows the amount of property on hand at the time of the taking. The correctness of the inventory was not questioned by the defendant and I think same may be accepted as a true and correct inventory by all concerned.

Basing their testimony on this Hoag inventory a number of witnesses, who seemed to have had considerable experience in that regard, made valuation of all of plaintiff's property. The final judgment of these witnesses as to a fair present value of the property is

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3	8,000,000 $7,700,000$

In arriving at their valuations these witnesses applied, onethe average prices for labor and materials for the two years immediately preceding the taking of the inventory, another the average prices for five years, and the others—prices as of October and December 1919. Mr. Lyndon an expert introduced by the City, stated that had he applied the methods used by the other experts to wit, in the main the reproduction method of valuation, he would have arrived at approximately the same conclusion arrived at by these witnesses. I feel that I am bound to give this testimony as to value considerable weight. As stated, these witnesses were shown to have had considerable learning and experience. It will be noted that the lowest valuation placed on this property by any of

these witnesses was \$7,000,000. A fair average of their valuations

amounts to approximately \$7,500,000.

While I feel bound by the testimony of these witnesses, because they applied what I conceive to be, under the law and in accordance with reason, proper methods of determining the value, and while I think the City's experts applied faulty methods in arriving at the value which necessarily led to wrong results, having the effect of making their testimony of less weight, I cannot give an honest judgment of value equal to the average of the values sworn to by these experts. I think I should be in a position to say as to the value of this property that the testimony of the witnesses has been sufficient to establish to a reasonable certainty the value I find and sufficient to overcome any presumption arising from the record. I believe the property is worth at least \$6,000,000.

I therefore, find from the vast preponderance of the testimony that the property owned by the plaintiff company used and useful in the telephone service in the City of Houston is of the value \$6.

000,000. This finding as to value is made up as follows:

Value of physical property	\$5,000,000
Going concern value	765,000
Working capital	238,000

\$6,003,000

in round numbers \$6,000,000.

The figure as to the value of the physical property is its value in its present condition. Its value new, or its undepreciated value I find to be \$5,500,000.

Plaintiff's Income.

The plaintiff's general exchange revenues for the year of 1919 were \$880,439.00. During six months of the year, however, rates in excess of \$5.00 and \$2.00 prescribed by the ordinance of 1909 were in effect, namely the Government rates of \$7.50 and \$3.00. In testing the \$5.00 and \$2.00 rates the excess revenue received from the \$7.50 and \$3.00 rates must be deducted. This amounted to \$115,955.00, making the income received under the contested rates \$764,484.00. In addition plaintiff received miscellaneous operating revenue of \$22,472.00 and also toll service revenue of \$121,302.00, making a total revenue during 1919 of \$908,258.00. This revenue plaintiff's books show it received in the Houston exchange and the correctness of same is not contested, except that defendants claim that the exchange should be credited with a larger proportion of the toll service revenue.

Allowance for Handling Toll Business.

Plaintiff company credits to the Houston exchange 25% of all long distance tolls collected in Houston. This credit is allowed the Houston exchange for its part in the operation of the toll lines and for billing and collecting the toll accounts. No part of the toll line

equipment that is possible to be segregated from the local equipment is inventoried or appraised in arriving at the value of the Houston exchange. The only property belonging to the Houston exchange used in handling a toll message is the equipment from the local subscribers' station to the long distance toll boards. evidence shows thare is credited to the Houston exchange an average allowance of 14.9 cents per long distance call. This amount is greater than the amount allowed any one of the eight largest independent exchanges in the State by independent long distance lines with which they connect. Independent long distance lines connecting with the plaintiff company's exchanges allow plaintiff the same rate for like services. This allowance to the Houston exchange is larger than this plaintiff pays to over 300 independent exchanges with which its long distance lines connect as they do with the Hous-No one of the four largest independent long distance systems in Texas pays to any independent exchanges more than is credited to the Houston exchange per call handled. tends to show that 25% is the customary allowance made by State Commissions throughout the country. It seems not to be practicable

to segregate the costs of handling these long distance messages as between the local exchanges and the long distance lines.

Of course the City of Houston has no authority to fix the rate of charge for long distance business as these long distance lines are largely outside of the City of Houston. Whether the plaintiff com-pany as a whole makes or loses money in handling long distance messages is beside the question. I am not entirely clear that the actual cost of the services rendered by the local exchange is the proper measure of the allowance to be made the Houston exchange for the services rendered in view of the ownership by the plaintiff company of both the local and long distance lines. In view of the fact that this amount seems to be generally approved as above stated by the courts and the approval especially in the Fort Worth case and the somewhat greater weight to be attached to the testimony that this allowance is fair and, in view of the further fact that any reasonably fair allowance made could not affect the ultimate result as applied to the instant case, I have decided to approve as a correct allowance this 25% of the toll line revenue collected in Houston. interest in this connection I quote the opinion in the case of Cumberland Telephone and Telegraph Company vs. Louisville, 137 Fed. 637 as follows:

"In 1908 the gross earnings, as shown by the master, were the sum of \$325,838.30, exclusive of the item presently to be noticed. In this sum is included \$7,632.11 which represents 15 per cent of all the tolls collected by the company upon all long-distance messages sent from this city over the company's long distance wires. The other 85 per cent of such collections were not taken into its accounts by the company as part of its earnings in this city. The proof renders it entirely clear that the company uniformly contracts with numerous other companies, in many of which it has no interest, to handle all the toll business between them, so far as it goes over its

56

lines for a compensation fixed upon a basis of 15 per cent of tolls on outgoing messages only, and we are free to say upon the testimony that this appears to afford a fair compensation for the service it renders both upon outgoing and upon incoming messages, and if this is so in respect to outside companies we know of no very good reason why the same rule may not be applied here, because very much the larger part of the company's own toll service is over wires and through instrumentalities located entirely outside of Louisville, that city furnishing the facilities of a terminal point only. pany's property here contributes only a small item in the name of the property the company actually uses, in long distance service over its These are matters of importance to be remembered in connection with our duty to ascertain what is a fair income upon that part of the company's property which is located at this point. The master concluded, however, that the 15 per cent was not a fair division and that the other S5 per cent, which amounted in 1908 to \$43,248.70 should also be included in the gross earnings of the company here, which of course, would require it to put into any estimate of its earnings upon the property it has in Louisville, a great sum which its local property did not in fact earn, but which was earned by other property located all over the South. the master's conclusion upon this item was to swell the gross earnings of the company at this point from \$325,838.30 to \$369,087.00. think that neither the testimony nor sound reason will justify all of this addition, but while we are extremely doubtful of its correctness we have concluded, under the peculiar circumstances of this case, to add to the 15 per cent already included in the gross earnings the further sum of \$5,088.08 to cover the cost of operating here, the toll lines extending elsewhere, thus allowing for the local work 25% instead of 15 per cent."

Plaintiff's Expenses.

Plaintiff's total expenses as carried on its books with reference to the Houston property amount to \$1.226,312.00. There is controversy as to certain items of this expense, especially with reference to the 4½ per cent payment under the so-called licensed contract and the amount of the annual reserve for depreciation; also as to general and traffic expenses.

The 41/2 Per Cent Payment.

Among other operating expenses the plaintiff company pays to the American Telephone and Telegraph Company 4½ per cent of certain gross receipts amounting to approximately 95 per cent of the total revenue of the Houston exchange, in payment for certain services and the use of instruments owned by the American Telephone and Telegraph Company and leased to plaintiff company. In connection with this payment should be considered the fact that the American Telephone and Telegraph Company owns practically all of the stock of the plaintiff company. That fact to my mind

does not mean that this contract between plaintiff company and the American Telephone and Telegraph company is necessarily unfair and unjust, but it does mean that the terms of such contract would naturally be scrutinized more carefully than if made between two companies dealing at arm's length.

The Supreme Court of Michigan in the case of City of Detroit vs. Michigan R. R. Commission and Michigan State Telephone Company decided April 10, 1920, quoted with approval the opinion of the Commission of that State as to this 4½ per cent payment as

follows:

"The majority of the Commission refer to this contract in its opinion and we quote from it:

"The American Telephone and Telegraph Company itself a large corporation, financed by the issuance of its own securities and occupying the same relative position to telephone companies of several other states, is able with practicability to, and does maintain extensive laboratories and offices, where careful experiments are constantly being made, desigend to produce improvements and economies in It employs engineers, accountants, auditors and others whose services are highly beneficial to telephone companies, whose employment would be impossible to any of these associated companies The cost to any individual company of maintaining a staff of skilled assistants of like character and ability would be prohibitive; yet, under this arrangement the Michigan State Telephone Company now has the benefit of all that these men do or produce in the way of improvements, refinements or economies in telephone facilities, service or methods of operation. True, the results of the investigations and experiments of these men, once they are achieved may be given to many associated companies as readily as to one, but that does not lessen the value of them to any one of the associated companies.

The Michigan State Telephone Company's securities are taken and handled by the American Telephone and Telegraph Company at uniformly low interest rates and without large discounts.

This service is one, the value and importance of which it is impossible to calculate. Much of its materials and supplies are furnished to it through the Western Electric Company at prices, upon terms and of a quality, comparing very favorably with those of other supply houses. These items were considered of such definite importance by Mr. Burch that he very properly took them into consideration in the computation of interest during the period of construction, the same benefits accruing during that period, continue to the company. A lengthy statement of the services and benefits accruing to the Michigan State Telephone Company, through its association with the American Telephone and Telephone Company, is a part of the proofs in this case. * * *"

The effect of this arrangement is that the State Company is given

The effect of this arrangement is that the State Company is given the benefit of the services of the most efficient engineers, accountants, traffic men, patent lawyers and others possible to secure. They are furnished with certain standard parts of all telephone sets, which are kept in repair for them. They are aided in their financial matters

extensively.

These are services which the Company needs, which are useful to it, inuring to the benefit of its patrons, which, if they could otherwise be had at all, certainly could not be obtained at any less cost than under their contract with the American Telephone & Telegraph It is apparent that this contract should receive the ap-The facilities used by public proval of the Commission. utility companies are the property of such companies. Their affairs. subject to the restrictions of the law, are subject to the management and control of their governing body. They are at liberty to make contracts, to purchase facilities and property deemed by them to be necessary and proper for the conduct of their business, to finance their operations according to the dictates of their judgment, and so long as this management is fairly economical and so long as it is honest and does not amount to a fraud upon the public, the Commission has no power to interfere.

This principle of law is well stated by Chief Justice Brewer in the case of the Interstate Commerve v. the Chicago Great Western Railroad Company, 209 U. S. 108, where he says: "It must be remembered that railroads are the private property of their owners: that while from the public character of the work in which they are engaged the public has the power to prescribe rules for securing faithful and efficient service and equality between shippers and communities, yet in no proper sense is the public a general manager." This same principle is enunciated in Great Northern Railway Company v. Minnesota Commission, 238 U. S. 340 and in Chicago, Milwaukee & St. Paul Railroad vs. Wisconsin, 238 U. S. 491; The Supreme Court of New York in the case of People ex Rel. v. Stevens,

203 N. Y. 7 said:

"The discretion of a public service Commission cannot override the discretion of the officers of a corporation in the management of It follows in the opinion of the commission that unless the contracts between the Michigan State Telephone Company and the American Telephone & Telegraph Company, under which certain facilities are furnished and certain engineering accounting and other services are rendered to the Michigan State Telephone Company and between the Michigan State Telephone Company and the Western Electric Company, under which the applicant company purchases certain of its supplies and materials, amount to a fraud upon the public by reason of the price paid by the Michigan State Telephone Company being excessive, then the disbursements of the Michigan State Telephone Company, in pursuance of these contracts, must be considered legitimate and proper charges upon its revenues. It was made to appear upon the hearing before the Commission by Mr. Burch that the prices and terms at which the Western Electric Company furnished property and facilities to the Michigan State Telephone Company were very favorable, that the facilities furnished by the Western Electric Company were a good standard, the world over and furnish an excellent basis for fixing unit prices."

This opinion by the Commission is evidently based on a state of facts such as we have in the instant case. It points out very clearly the advantages obtained from the American Telephone and Telegraph Company for which this payment is made by the plaintiff to said company. There is quite a volume of testimony in this record with reference to this payment. That plaintiff gets full value for

the amount of money paid to the parent company is very clearly and decisively shown by the testimony. The opinion quoted sums up the advantages accruing to the Houston Exchange as shown by the testimony in this case. I unqualifiedly approve this 4½ per cent payment as an operating charge against the gross income received by the company.

The Annual Reserve for Depreciation.

The plaintiff has the right and it is its duty to set aside an amount annually as a reserve for depreciation. The purpose of the reserve is to enable plaintiff to replace its property when and as it comes to the end of its useful life. It takes care of wear and tear, rust and rot, obsolescense, inadequacy, changes in the art, public demands and requirements and casualties. The right and duty to set aside such a reserve is conceded by all parties, the amount only set aside by plaintiff being contested by the City. The Amount to be properly set aside for such purpose is a matter of judgment, taking into consideration the character and requirements of the property. Four witnesses for the plaintiff, after making thorough studies, gave as their opinions the following amounts as proper percentages for the rate of this reserve.

Hoag		0				0									٠		٠		٠		٠		6.33%
Toppin	g									۰			٠			0		٠			٠		7.01%
Player					*				*			*											6.43%
Gates							0						٠										6.36%

These conclusions were based on the experience of the witnesses in the telephone business, with knowledge of the particular property in question. Their findings being based on more definite knowledge and upon more complete and careful occupations are somewhat more satisfactory than estimates made by the other witnesses. I, therefore adopt the lowest of the figures and find that 6.33% of the value new, of the physical property or \$348,150.00 was a proper amount to set aside during the year 1919 as a reserve for depreciation. As of some interest in connection with the proper annual rate of reserve, a large number of decisions, both court and commission, which I have noted, indicate a general average of between six and seven per cent for telephone exchange property. The court in the Fort Worth case approved the finding of the Master of 6.67 per cent as proper for the property in that city. It is believed that the rate for the reserve should not be materially different in Houston, if anything it should perhaps be higher in Houston.

General Expense.

At Dallas and St. Louis, are maintained general offices where a great deal of the executive work and practically all of the general accounting work is done for the property of plaintiff in this State, and plaintiff in accordance with the requirements of the Interstate Commerce Commission assigns a proportional pro rata part of the expense to each of its exchanges. It seems to me that the services performed y the general offices are necessary to the exchange and make for economy. The Centralization of the executive, administrative and accounting work is of material benefit to the Houston exchange, it appears that the company pays out this money. The evidence amply sustains and requires a finding that the assignment or apportionment made is fair and reasonable.

Traffic Expenses.

Eighty-five per cent of these expenses are paid to and for its operators in Houston. I approve these items of expenses and find that plaintiff's reasonable traffic expense for the year 1919 amounted — \$418,005.00.

The Revenues, Expenses and Net Results.

The evidence gives in detail the various items of revenue and expense. I have condensed the facts as I find them to be in the following summary.

Revenue, Expenses, Net Results, 1919.

Revenues:

Total

General exchange revenues \$880,439.00 less \$115,-955.00 due to increased rates being in effect February 1, to August 1. (Scott Ex. 171 and Lyndon Ex. No. 6)	\$ 764,484.00
Toll service revenue	121,302.00
Miscellaneous operating revenue	22,472.00
Total	\$908,258.00
Expenses:	
Current Maintenance	\$129,956.00
Traffic	418,005.00
Commercial	84,076.00
General, executive, legal, insurance, etc	48,641.00
Uncollectibles	15,084.00
Taxes	123,461.00
Payments for instruments and services	43,528.00
	348,150.00
Reserve for depreciation 6.33%	3,561.00
Other deductions	0,001.00

\$1,214,462.00

Total Total	Expenses Revenues	 	 						 					$\substack{1,214,462.00\\908,258.00}$
	Loss												_	

This does not include any amount for interest, dividends of for a return upon the property. The figures given are for the full 90 year of 1919 under the rates sought to be imposed and continued by the City ordinance of 1909. For the preceding three years the evidence shows that the property did not pay its expenses under such rates and that for 1920 conditions indicate that an even greater loss may be expected than occurred in the preceding years.

Rate of Return.

Taking into consideration the money invested, the locality of the investment, the risks incident to and the character of the business, I find that eight per cent is a fair rate of return on the value of plaintiff's property, and that a rate of return less than eight per cent is confiscatory.

Such a finding is fully sustained by the evidence. If we are permitted to take notice of decrees of this Court not connected with this litigation it may be noted that in the Street Car case recently decided—this Court approved a finding by the Master that an eight per cent rate of return was fair. It is not believed that there could be any material difference in the fair rate of return allowable to these utilities operating in the same city. In the case of Lincoln Gas & Electric Light Company vs. City of Lincoln, 250 U. S. 256, decided June 2, 1919, the Supreme Court said:

"It is a matter of common knowledge that, owing principally to the World War the costs of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and largely since this case was last heard in the court below. And it is equally well known that annual returns upon capital and enterprise the world over have materially increased, so that what would have been a proper rate of return for capital invested in gas plants or similar public utilities a few years ago furnishes no safe criterion for the present or for the future."

On page 10 of the defendants' brief, suggestion is made by counsel for the City that plaintiff is estopped by subdivision (e) of Section 1 of the merger ordinance of 1915 to make a claim for a fair return on its property fixing the value thereof, on any theory other than the cost thereof. I understand that the defendants have contended that this subdivision of said ordinance is not binding on the City to the extent, at least, of fixing the amount of fair return on the theory that the City could not bargain away its right to fix rates, citing the case of City of San Antonio vs. Altgelt, 200 U. S., 304. If that contention is sound and that subdivision not binding upon the city, it is not believed that it could be binding on plaintiff as

the contract would then lack mutuality and be unilateral, binding on neither.

It occurs, however, in this particular litigation that the question of estoppel by the ordinance could not arise in any event for the reason that we are compelled to find from the evidence that the plaintiff is not making a fair return on the value of its property, however that value might be determined.

Counsel for the City again suggest that the plaintiff is not entitled to the relief sought herein, because it is claimed that it has not made a full disclosure of all the facts with reference to the costs, especially of services and material furnished plaintiff by the American Telephone and Telegraph Company and the Western Electric Company. The American Telephone and Telegraph Company owns practically all of the stock of the plaintiff company and of the Western Electric Company. No fault can be found with the maxim that "he who comes into a court of equity, must come with clean hands."

The weight and preponderance of the evidence compel a finding that the 4½ per cent payment made the American Telephone and Telegraph Company is made for valuable and amply sufficient services. This evidence further shows that the supplies furnished plaintiff company by the Western Electric Company is furnished at prices on the whole, less than the same character of supplies could be procured from any other source.

These corporations furnishing supplies and services to the plaintiff company are in law, at least, separate legal entities. Certainly there are other sources from which the services in part, at least, furnished by the American Telephone and Telegraph Company could be procured other than from that company. I think this is true also as to the major part of the supplies furnished by the Western Electric Company.

So long as plaintiff company is charged fair and reasonable prices for services and materials furnished by these other legal entities and no fraud is practiced, it is not believed that it is necessary before plaintiff is entitled to the relief sought herein to show the costs of these services and property furnished plaintiff by the American Telephone and Telegraph Company and the Western Electric Company, although the stock of plaintiff and of the Western Electric Company is practically all owned by the American Telephone and Telegraph Company. In discharging the burden cast upon it in this case the plaintiff should show by reasonably satisfactory evidence that it is entitled to the relief sought. This does not mean that to have clean hands it must produce all the evidence available or possible to be furnished, but only sufficient evidence to demonstrate that its property is being confiscated. If the rates for

furnishing telephone service are fixed at presumably fair rates, and subsequent to the fixing of such rates the cost of furnishing the service has largely increased, it would naturally occur to the man in the street that some corresponding increase in rates would be necessary to afford a profit. That such increase in the cost of operation has occurred, is a matter of common knowledge and

is generally recognized with regard to other public utilities, especially the railroads. It applies to every business under present conditions. These conditions being shown, the burden of proof is practically met.

Conclusion

From the findings of fact above indicated, compelled by the evidence with reference to plaintiff's present income and costs of operation, it is apparent that the rates fixed by the ordinance of 1909 applied under present conditions prevent plaintiff from obtaining a fair return on the value of its property used and useful in rendering telephone service in Houston Texas, and that such rates are, therefore confiscatory and that the enforcement of this ordinance under such conditions should be enjoined, with the usual reservation that if these conditions change so that the rates fixed in this ordinance are no longer confiscatory, the City may apply to the court for a proper modification of the decree.

Respectfully submitted,

J. LLEWELLYN, Special Master in Chancery.

Dated June 5, 1920.

Endorsements: No. 108 Eq. The Southwestern Telegraph & Telephone Co. vs. The City of Houston et al. Report of Special Master in Chancery. Filed 7th day of June, 1920. L. C. Masterson, clerk; by J. L. Sexton, deputy.

63

Defendant's Exceptions to Master's Report.

Filed June 17, 1920.

In the District Court of the United States for the Southern District of Texas, at Houston.

Equity. No. 108.

THE SOUTHWESTERN TELEGRAPH & TELEPHONE COMPANY

VS.

CITY OF HOUSTON et al.

Now comes the defendants in the above entitled and numbered cause and make exceptions to the report of the special Master in Chancery appointed by this court, to whom this cause was referred to take the proofs and evidence of the respective parties and report his conclusions of fact and law thereon, by an order of this court made on the 25th day of August, 1919 and which report executed in compliance with said order bears date on the 5th day of June 1920, and also filed in this cause on the 7th day of June 1920.

1st. For this, that the said Master has found decided and reported, as appears on page 9 of his report, that the reproduction method affords the strongest evidence of value and that the original cost furnishes but little evidence of present value, and in attaching more weight to the testimony of the value based on the reproduction theory than that based alone on the historical or cost value.

Whereas, the Master should have found, reported and decided that at least as much, if not more, weight should have been given to the historical or original cost, than to the value based upon the present cost of reproducing the Houston Telephone Exchange the property

involved herein.

2nd. For this, that the said Master has found, decided and reported, as appears on page 11 of his report, that the property owned by the plaintiff company used and useful in the telephone service, in the City of Houston is of the value of \$6,000,000.

Whereas, the Master should, from the evidence have found decided and reported that the value of the property of the plaintiff company used and useful in the telephone service in the

City of Houston is of the value of \$3,000,000.00.

3rd. For that the Master has found, decided and reported as appears on page 11 of his report, that the value of the physical property in its present condition used and useful by the plaintiff in the telephone service in the use of the City of Houston, is \$5,500,000.

Whereas, the Master should have found, decided and reported that the value of the physical property of the plaintiff used and useful of the telephone service in the City of Houston, was not more than

\$2,750,000.

4th. For this, that the Master found decided and reported as appears on page 11 of his report that in addition to the physical property of the plaintiff, used and useful in the telephone service of the City of Houston such property had an intangible value, styled "Going Concern Value" amounting to \$750,000.

Whereas, from the evidence, the Master should have found, reported and decided that the intangible assets, including "Going Concern Value" or cost of establishing business, was not in excess of

\$50,000.

5th. For this, that the Master has found, decided and reported, as appears on page 11 of his report, that the plaintiff is entitled to an

allowance for working capital of \$238,000.

Whereas from the evidence, the Master should have found, decided and reported that the plaintiff was entitled to working capital not in excess of \$100,000.

6th. For this, that the Master has found, decided and reported as appears from page 13, of his report that 25 per cent of the toll revenue collected in Houston, which the company credits to the Houston exchange as owners of such exchange, is a fair allowance to such exchange to cover its part in the operation of the toll lines and for billing and collecting the toll accounts.

Whereas the Master should have found that all the property of the Houston exchange was in addition to the service it furnished to local subscribers, being also used jointly with the toll lines of the plaintiff company, to earn a large amount of tolls, same being for the year 1919, approximately \$400,000, and that the value of the property of the Houston exchange used and useful for furnishing local telephone service in the City of Houston should be reduced by

the proportionate use of such property in handling such long distance tolls, and should have further found decided and reported that 25 per cent was not a sufficient amount to be credited to the revenues of the Houston exchange, but that at least 60 per cent of such toll collections should be credited to such Houston exchange.

7th. For this that the Master found decided and reported, as appears on page 17 of his report, that the charge of 4½ per cent on certain gross receipts of the Houston Exchange, amounting to approximately 95 per cent of the total gross receipts of the Houston exchange, which is paid to The American Telegraph & Telephone Company in payment for certain services and the use of certain instruments owned by The American Telegraph & Telephone Company, and leased to plaintiff Company, was a proper operating charge against the said gross income received by the plaintiff company from the operation of the Houston telephone exchange.

Whereas, the Master should have found decided and reported that the cost of said services and the use or rental of said instruments was not shown by plaintiff and that for this reason the said charge should

have been either greatly reduced or wholly disallowed.

8th. For this, that the Master found, decided and reported, as shown on pages 17 and 18 of his report, that it was the right and duty of the plaintiff, in order to enable plaintiff to replace its property used and useful in the Houston telephone service, when it should come to the end of its useful life, and to take care of wear, tear, rust, rot, obsolescence, inadequacy changes in the art, business demands requirements and casualties, the sum of 6.33 per cent upon the value new of the physical property, or \$348,150 for the year 1919, as a reserve for depreciation.

Whereas, the Master should have found, decided and reported that 4 per cent upon the value new of the physical property at a valuation of \$3,000,000 or \$160,000 for the year 1919, was a proper and

sufficient amount to set aside as a reserve for depreciation.

9th. For this, that the Master found, as shown on page 19 of his report that the total expenses of the company for the year 1919 were \$1,204,262, and that its total revenue was \$908,258, showing that the company operated its property in the Houston telephone exchange for the year 1919 at a loss of \$306,204.

Whereas the Master should have found, decided and reported that the expenses of the plaintiff in operating the said Houston telephone exchange in the year 1919, after allowing the proper depreciation reserve, were not in excess of \$1,000,000,

and that many of the items making up such amount were excessive and that others should have been wholly disallowed and that the plaintiff company, not having disclosed all the revenues resulting from the operation of the said Houston exchange, that it was impossible to determine the amount of such revenues, and for that reason unable to determine what the net earnings of such plaintiff company was, for the year 1919, in the operation of its Houston exchange.

10th. For this, that the Master found, decided and reported, as shown on page 20 of his report, that anything less than 8 per cent return on plaintiff's property would be confiscatory.

Whereas, the Master should have found, reported and decided that a return of as much as 6 per cent. on the value of such property

would not be confiscatory.

11th. For this, that the Master found, as is shown on page-20 and 21 of his report, that the plaintiff company is not estopped by subdivision "E" of Sec. 1 of the Merger Ordinances of 1915, to make a claim for a fair return on its property, fixing the value thereof on any theory other than the cost thereof.

Whereas, as shown by the evidence, the Master should have found, decided and reported that the plaintiff company was so estopped by reason of the said subdivision of said merger ordinance from claiming a return on any value other than the original cost of its property.

12th. For this, that the Master found, reported and decided, as appears on pages 21 and 22 of his report, that the plaintiff company is entitled to be heard in a court of equity and to the relief sought therein.

Whereas the Master should have found, decided and reported, that, as shown by the evidence, the plaintiff company did not make such a full and complete disclosure in regard to its revenues and particularly in regard to the amount which would be deducted from the value of the property of the Houston telephone exchange on account of the additional use and service such property was put to by the plaintiff company in earning other revenues, to wit, its long distance tolls; and on account of the said plaintiff company failing to disclose the result of its financial dealings with the Western Electric Company and the profits resulting therefrom, involving the purchase by the plaintiff from The Western Electric Company of large amounts of property equipment and supplies, both the plaintiff and the said Western Electric Company, as appears from the

evidence, being owned by the same company to wit, The American Telegraph & Telephone Company, in the following manner, that is to say, that the said American Telegraph & Telephone Company owned practically all of the stock of both the plaintiff company and the said Western Electric Company and the Master should have further found that the said Plaintiff company was not entitled to relief in a court of equity because it made no effort to do equity and has not come into the court with clean hands.

13th. For this, that the Master found, decided and reported, as appears from pages 22 and 23 of his report that the rates fixed by the ordinance of 1909 applied under present conditions to prevent plaintiff from obtaining a fair return on the value of its property used and useful in rendering telephone service in the City of Houston, Texas, and that such rates are, therefore confiscatory and that the enforcement of said ordinance under such conditions should be enjoined.

Whereas, the Master should have reported that on account of the fact that the plaintiff company had not made a full and fair disclosure of its affairs and particularly had not shown that the telephone exchange of the City of Houston was credited with the proper and sufficient part of the toll earnings and no disclosure was made as to the extent to which the value of the property used by the plaintiff company in furnishing the telephone service in the City of Houston should be reduced on account of such additional service and use to which the said property was put in earning the toll revenues and further that it had not made a disclosure of the profits realized by the parent company, The American Telegraph & Telephone Company, which owns the plaintiff company in the manner above stated, on account of the purchases of the equipment and supplies from The Western Electric Company which is also cowned by the said American Telegraph & Telephone Company, in the the manner above quoted.

Wherefore the defendants except to the said report and ask the judgment of the court thereon.

W. J. HOWARD, Solicitor for the Defendants, City of Houston, et al.

Endorsements: In the District Court of the United States for the Southern District of Texas at Houston. The Southwestern Telegraph & Telephone Company vs. City of Houston et al. Equity No. 108. Defendants' Exceptions to Master's Report. Filed 17 day of June 1920. L. C. Masterson, clerk, by M. Anderson, deputy. 68

Opinion.

Filed Sept. 7, 1920.

In the District Court of the United States for the Southern District of Texas.

No. 108. In Equity.

SOUTHWESTERN TELEGRAPH & TELEPHONE COMPANY

VS.

CITY OF HOUSTON.

D. A. Frank, St. Louis, Missouri; Joseph D. Frank, Dallas, Texas; William H. Duls, Dallas, Texas; John Charles Harris, Houston, Texas; Solicitors for Plaintiff.

W. J. Howard, Houston, Texas; Kenneth Krahl, Houston, Texas; Solicitors for Defendant.

JACK, District Judge.

69

Opinion.

In 1909, the City of Houston passed an ordinance fixing local telephone rates under which plaintiff company operated until 1915, when it acquired, by purchase and merger, the property of the Houston Home Telephone Company. The ordinance authorizing the merger, duly accepted by the plaintiff company, contained the following provision as to future increases in rates:

"The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonable prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than seven nor more than eight per cent."

In December, 1917, plaintiff made application to the City Council for authority to put in effect a schedule of increased rates. Hearings were had, but no final action on the application was taken by the Council. In August, 1918, the Federal Government took control of all the properties of the defendant company, including the

Houston exchange, and continued to operate the same through the Postmaster General, who in February, 1919, adopted the proposed new schedule of rates. To avoid prosecutions under the old ordinance of 1909, the Telephone Company as agent for the Postmaster General, brought suit against the City, to enjoin it from seeking to enforce the old rates. This court granted the injunction, holding that the property being operated by the President through the Postmaster General, as a war measure, authorized by Congress, his right to increase rates could not be questioned by defendant. (256 Fed. 690).

On July 31, 1919, the United States returned its property to the Telephone Company and promptly thereafter the Mayor of the City notified the Company that, the injunction granted having become inoperative, the City would insist upon a return to the schedule of rates prescribed by the ordinance of 1909, whereupon plaintiff filed an amended and substituted bill, seeking an injunction on the allegations that the schedule of rates fixed by the ordinance of 1909 would not yield and had for several years past not yielded, revenue in excess of the operating expenses, and that such ordinance was confiscatory of its property and in violation of the Fourteenth Amendment of the Federal Constitution, forbidding the taking of property without due process of law. With instructions

to take the evidence and report his findings of fact and conclusions of law, the case was referred to Julian Llewellyn, Special Master who in a carefully prepared and well considered report, found that the ordinance was confiscatory and that its enforcement should be enjoined. The case is now before the Court on defendants' exceptions to the Master's report.

The consideration and effect to be given by the Court to the findings of fact by the Master in a case of this kind involving the public interest, is well expressed by Mr. Justice Moody in Knoxville Water Company vs. Knoxville 212 U. S. page 1.

"At the threshold of the consideration of the case, the attitude of this Court to the facts found below should be defined. Here are findings of fact by a Master, confirmed by the Court. The company contends that, under these circumstances, the findings are conclusive in this court, unless they are without support in the evidence, or were made under the influence of erroneous views of law. We need not stop to consider what the effect of such findings would be in an ordinary suit in equity. The purpose of this suit is to arrest the operation of a law on the ground that it is void and of no effect. happens that in this particular case, it is not an act of the legislature that is attacked, but an ordinance of a municipality. the function of rate-making is purely legislative in its character, and this is true whether it is exercised directly by the legislature itself, or by some subordinante or administrative body, to whom the power of fixing rates in detail has been delegated. The completed act derives its authority from the legislature, and must be regarded as an exercise of the legislative power. There can be at this day no doubt, on the one hand, that the courts, on constitutional grounds, may exercise the power of refusing to enforce legislation, nor, on

71

the other hand, that the power ought to be exercised only in the clearest cases. The constitutional invalidity should be manifest, and where that invalidity rests upon disputed questions of fact, the invalidating facts must be proved to the satisfaction of the Court. In view of the character of the judicial power invoked in such cases, it is not tolerable that its exercise should rest securely upon the findings of a Master, even though they be confirmed by the trial Court. The power is best safe-guarded against abuse, by preserving to this Court complete freedom in dealing with the facts of each case. Nothing less than this is demanded by the respect due from the judicial to the legislative authority. It must not be understood that the findings of a Master, confirmed by the trial court, are without weight, or that they will not as a practical question, sometimes be regarded as conclusive. All that is intended to be said is, that in cases of this character this court will not fetter its discretion or judgment by any artificial rules as to the weight of the Master's findings, however useful and well settled these rules may be in ordinary litigation. We approach the discussion of the facts in this spirit."

The rule is well established that rate making bodies must allow such a rate to public service corporations, as will yield a fair return upon a reasonable value of its property used for the public. The total value of the property, the Master found to be, in round figures as follows: value of physical property \$5,000,000; going concern value, \$765,000; working capital \$238,000; total, \$6,003,000. The defendant excepted to this finding, claiming that the valuation should have been as follows: Physical property \$2,750,000; going concern value \$50,000; working capital \$100,000; total \$2,900,000.

Physical Property.

Under the general rule as stated by the Supreme Court in Wilcox v. Consolidated Gas Company, 212 U.S. 19, the value of the property is to be determined as at the time when the inquiry is made regarding the rates. If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase. In the Minnesota Rate Case, 230 U.S. 352, the Court said:

"It is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment. If that has been reckless or improvident, losses may be sustained which the community does not underw-ite. As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership and it is that property and not the original cost of it, of which the owner may not be deprived without due process of law.

"The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable

judgment having its basis in a proper consideration of all relevant facts. The scope of the inquiry was thus broadly described in Smyth v. Ames (169 U. S. pp. 546, 547) 'In order to ascertain that value the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present, as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway, than the services rendered by it are reasonably worth."

With the high cost of labor and material, caused by the war, and which still prevails, the cost of reproduction of the plant, would be far in excess of the original cost. Taking into consideration the cost of reproduction, the original cost and these various elements which the courts have held should be included, the Master found the value of the physical property to be \$5,500,000, from which he deducted \$500,000 for depreciation, leaving a net valuation of \$5,000,000 whereas the actual cost of the property as shown by the company's books was \$4,571,567.

While, under the general rule, and in the absence of any agreement to the contrary, both the cost of reproduction, and the original ost, must be considered in fixing present value, the present case is acceptional in that by the terms of the ordinance permitting the plaintiff company to purchase a competing telephone exchange in Bouston, it is specifically provided that an increase of rates shall be remitted only when necessary to permit the company to earn a fair return—not upon the value of its property, but upon "its

capital actually invested in the Houston plant." Thus by
the terms of its contract with the City, the Telephone Company has specifically waived its right to claim anything more
han a fair return on its capital actually invested which is the actual

It is true, as held by the Master, that a municipal corporation under the constitution and laws of Texas may not bargain away its light to fix rates (San Antonio vs. Altgelt 200 U. S. 304) and it may be that it cannot bind itself by an agreement that the basis of uluation on which rates may be fixed shall be other than that which the courts have held to be the legal basis. Had the contract, evidenced by the ordinance and its acceptance, been attacked on this pound while yet executory, it may be that the courts would have unulled it for want of mutuality, but the contract is no longer necutory. It has been executed, the plaintiff company has long size taken over and absorbed the property of the competing company and it is now estopped from disavowing the agreement at the

73

time made by it as a substantial part of the consideration for the City's consent to a merger of the two corporations. I therefore think that the Master erred in treating as of no effect this provision of the ordinance.

The physical value of the property on which plaintiff is entitled to receive a fair return is the value as shown by the books, \$4,517,567.

Going Concern Value.

In the Des Moines Gas Co. vs. City of Des Moines, 238 U. S. 165, the Supreme Court held:

"That there is an element of value in an assembled and established plant doing business and earning money, over one not thus advanced, is self-evident. This element of value is a property right and should be considered in determining the value of the property upon which the owner has a right to make a fair return when the same is privately owned although dedicated to the public use."

See also Denver vs. Denver Union Water Co. 246 U. S. 178.

The Master's inclusion of a going concern value under authority of these cases would have been proper—though I do not think it should have been fixed in excess of one-half of the amount named—had it not been for the plaintiff's agreement in accepting the merger ordinance that the sum on which it should receive a fair return should be the capital actually invested, which is equivalent to the actual cost of the plant plus the working capital. In the statements previously filed with the City of the valuation of its property,

it does not appear that any going concern value had been included, and it seems clear that none was contemplated in the merger ordinance.

Over a million dollars of the capital actually invested by plaintiff company, as shown by its books, on which it is entitled to receive a fair return, represents the price paid for the plant of the Houston Home Company, and as the latter was at the time a going concern, that price included its going concern value. If now the going concern value of the merged corporations be included in the sum on which a fair return is to be paid, it is evident that there would be twice included the going concern value of the Houston Home Company property.

The cost of creating such going concern value was paid as expenses of operation out of the revenues of the company, much of it since 1919. When the Council, in that year fixed the present schedule of rates, as to which no complaint was made by the company until December 1917, it must be preseumed that the Council gave full consideration to all operating expenses in determining a fair rate. Such expenses so paid out of the Company's revenues, cannot be said to be "capital actually invested" and should not be included in the total valuation on which plaintiff is entitled to receive a fair return.

Working Capital.

By working capital is meant the amount of cash and supplies necessary to be kept on hand, to meet current expenses and contingencies, as they may arise, in the proper conduct of the business. The Master allowed, on this item, \$238,000, being the proportion of the total estimated operating capital of the company at all of its exchanges in Texas allocated to Houston, as figured and estimated

by one of the plaintiff's witnesses.

The plaintiff renders bills in advance to its subscribers. Its average monthly expenditures are about \$80,000 so that if every subscriber were a month and a half late in settling his bill, a working capital of \$80,000 would ordinarily suffice. Making due allowance for emergencies and unforeseen expenses, I think that \$120,000 would be a liberal allowance for working capital and that the finding of the Master should be reduced from \$238,000 to that sum.

Income and Expenses.

There is no dispute as to the amount of plaintiff's revenue actually received at the Houston Exchange during 1919, nor is there any question as to the Referee's finding of the expenses paid out for the same period, though exception was taken to allowance of 6.33 per cent reserve for depreciation. The total revenues, less excess collected over the old rates while the property was operated by the Government, aggregated \$908,258, while the expenses including reserve for depreciation, totalled \$1,214,462, leaving a deficit of \$306,204.

Division of Long Distance Tolls.

It is contended by the defendant that the plaintiff who owns certail toll lines running out of Houston has not credited to the Houston exchange its just proportion of toll receipts for long distance messages. The proportion so credited is 25% on all long distance tolls collected in Houston, which the Master found was greater than that allowed any one of the eight independent exchanges in the State by independent long distance toll lines with which they connect; that the rate is the same as that allowed the Houston exchange by independent long distance lines running into Houston; and that the rate is larger than that paid by the Plaintiff company to over three hundred independent exchanges. Furthermore 25% to the exchange the Master found, is the customary allowance made by State Commissions throughout the country, and that it is not practical to segregate the cost of handling long distance messages as between local exchanges and long distance lines. The Court will sustain the division as the usual and customary one.

(See Cumberland Telephone & Telegraph Company vs. Louis-

ville, 187 Fed. 637.)

American Telephone & Telegraph Company.

Plaintiff's telephone supplies are purchased from the Western Electric Company practically all of whose stock is owned by the American Telephone & Telegraph Company, which likewise owns ninety-nine and a fraction per cent of the stock of plaintiff com-pany. The American Telephone & Telegraph Company has a contract with the plaintiff by which it furnishes certain telephone apparatus and renders certain service in accounting and laboratory work, for which it is paid four and one half per cent of plaintiff's gross operating revenues.

The amount paid for this service is claimed by plaintiff to be excessive as are likewise alleged to be the prices charged by the Western Electric Company. It is furthermore contended that such service by the American Telephone & Telegraph Company should be rendered at cost and that the evidence offered fails to show what was such actual cost. The Master, after careful

75 consideration of the mass of conflicting testimony, held against such contentions of the plaintiff and found that the plaintiff gets full value for the amount of money paid the parent company and unqualifiedly approved the four and one half per cent payment, which in 1919 aggregated \$43,528.00.

As to the nature of the service rendered, the Master quotes with approval from the Supreme Court of Michigan in the case of Detroit vs. Railroad Commission and State Telephone Company, started April 10, 1920, in which that Court quotes with approval the opinion of the Railroad Commission of Michigan as follows:

"The American Telephone and Telegraph Company itself a large corporation financed by the issuance of its own securities, and occupying the same relative position to telephone companies of several other states, is able with practicability, to and does maintain extensive laboratories and offices where careful experiments are constantly being made, designed to produce improvements and economies in It employs engineers, accountants auditors and others whose services are highly beneficial to telephone companies whose employment would be impossible to any of these associated com-panies, individually. The cost to any individual company of maintaining a staff of skilled assistants of like character and ability would be prohibitive; yet under this arrangement the Michigan State Telephone Company now has the benefit of all that these men do or produce in the way of improvements, refinements or economies in telephone facilities, service or methods of operation. True the results of the investigations and experiments of these men, once they are achieved may be given to many associated companies as readily as to one, but that does not lessen the value of them to anyone of the associated companies.

"The Michigan State Telephone Company's securities are taken and handled by the American Telephone and Telegraph Company at uniformly low interest rates and without large discounts. service is one, the value and importance of which it is impos-ible

to calculate

"The effect of this arrangement is that the State Company is given the benefit of the services of the most efficient engineers, accountants, traffic men, patent lawyers and others possible to secure. They are furnished with certain standard parts of all telephone sets, which are kept in repair for them. They are aided in their financial matters extensively. These are services which the Company needs, which are useful to is, inuring to the benefit of its patrons, which, if they could otherwise be had at all, certainly would not be obtained at any less cost than under their contract with the American Telephone & Telegraph Company. It is apparent that this contract should receive the approval of the Commission lows in the opinion of the Commission that unless the contracts between the Michigan State Telephone Company and the American Telephone & Telegraph Company under which certain facilities are furnished and certain engineering accounting and other services are rendered to the Michigan State Telephone Company and between the Michigan State Telephone Company and the Western Electric Company, under which the applicant company purchases certain of its supplies and materials, amount to a fraud upon the public by reason of the price paid by the Michigan State Telephone Company being excessive, then the disbursements of the Michigan State Telephone Company, in pursuance of these contracts, must be considered legitimate and proper charges upon its revenues. It was made to appear upon the hearing before the Commission by Mr. Burch that the prices and terms at which the Western Electric Company furnished property and facilities to the Michigan State Telephone Company were very favorable, that the facilities furnished by the Western Electric Company were a good standard, the world over, and furnish an excellent basis for fixing unit prices.'

The scope of the inquiry in this case cannot be extended to the determination of a fair rate of profit to the American Telephone & Telegraph Company on its capital invested, or to such a rate

of profit to the Western Electric Company which is not a public service corporation, but a private corporation engaged in the business of manufacturing telephone apparatus. The problem presented by the relations of such holding and subsidiary corporations are serious ones which vitally affect the public interest, but they are problems which primarilly call for legislative consideration.

The fact that the American Telephone & Telegraph Company dominates and controls both the plaintiff company and the Western Electric Company, is sufficient to cause the courts to very closely scrutinize any dealings between these corporations whereby any unjust advantage might be taken by the parent company, or the effect of which might be to enable it to receive a larger return than that which forms the basis of the established rate for telephone service to the public. Such corporations, however, are not debarred from entering into contracts with each other, and where such contracts are fair and advantageous to the subordinate corporation, they will be recognized and given effect.

Reserve for Depreciation.

The Plant's present condition, according to witnesses is 92% per-That is to say, with the replacements which have from time to time been made, there is only a general depreciation now existing The Company has not shown the actual amount paid out for replacements prior to 1909, when it first began a system of bookkeeping so as to show such costs. The realized depreciation for 1909 to 1917 is shown to have been only 4% of the book cost of the plant, but this does not cover replacements which will in the future have to be made such as central office equipment, buildings, underground cable, etc. During 1918 and 1919, while the property was being administered by the Government a reserve of 5.72% was allowed for depreciation. The usual amount of replacements were not actually made during Government control because of the war and the priority given to war industries. The 6.33% reserve allowed by the Master for depreciation would, I think, be too much if figured on the value of the plant, not including depreciation, as was done, but if the percentage be taken on the book value, which under the merger contract should govern, I think it would, under present conditions be a proper allowance.

Return on Capital Actually Invested.

The Master found that 8% under present conditions would be a fair return. In Lincoln Gas & Electric Company vs. City of Lincoln 250 U. S. 256, the Court said:

"It is a matter of common knowledge that owing principally to the World War, the cost of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and largely since this case was last heard in the Court below. And it is equally well known that annual returns upon capital and enterprise the world over have materially increased, so that what would have been a proper rate of return for capital invested in gas plants or similar public utilities a few years ago, furnishes no safe criterion for the present or for the future."

A return of 8% is, I think, under present conditions, a fair one if restricted as it should be to the capital actually invested.

Summarizing, the capital actually invested, on which plaintiff is entitled to receive a fair return is as follows:

Value of physical	property	\$4,571,567 	.00
Working capital			.00

\$4,691,567.00

It should receive on this a net return of 8% or \$375,325.00. Instead of receiving such income, under the Master's findings of revenues and expenses, it sustained a loss during the year 1919 of \$306,-

This includes an allowance of \$348,150.00 for depreciation, being 6.33% of \$5,500,000.00. Substituting for \$348,150.00, \$289,380.00 being the same percentage on the actual cost, would reduce the excess of expense over renenue to \$247,434.00, net loss It follows that the said ordinance of 1909 is confiscatory of plaintiff's property and in violation of the Fourteenth Amendment of the Federal Constitution, prohibiting the taking of one's property without due process of law. The Master's findings, except as otherwise stated are approved. A decree will be prepared and presented in accordance with the views herein expressed.

The findings of the Court on the questions of fact herein presented are intended as a guide to the City Council in enacting a new ordinance establishing a new schedule of rates. The Court's decision relates only to the present. A year hence conditions may so change as to warrant a further increase or a decrease in rates. will be without prejudice to either party should conditions hereafter justify, to petition the Court to rescind its injunction or to grant such relief as may be necessary or needful under such changed conditions, and to that end the Court will retain jurisdiction.

GEO. WHITFIELD JACK,

Judge.

Endorsements: No. 108. In Equity. United States District Court, Southern District of Texas. Southwestern Telegraph & Telephone Company vs. City of Houston. Opinion. Filed Sept. 7. 1920.L. C. Masterson, Clerk.

78

Decree.

Filed September 18, 1920.

In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY

THE CITY OF HOUSTON et al.

On the 20th day of July, 1920, this cause came on to be heard on the exceptions of defendants to the report of the Special Master, Julian Llewellyn, filed herein on the fifth day of June, A. D. 1920, and on the evidence and proofs in the case and the same were argued by counsel for complainant and defendants respectively.

Wherefore, upon consideration thereof, it is ordered, adjudged and decreed by the Court.

I.

That the ordinance passed by the City of Houston on or about the 22nd day of October, 1909, fixing rates to be charged by complainant Company for telephone service in the City of Houston is unjust and confiscatory and in violation of the Constitution and Laws of the United States, and that the prayer of the plaintiff Southwestern Bell Telephone Company for an injunction herein be granted, and that the defendants, the City of Houston, A. E. Amerman, Mayor; Dan M. Moody, H. A. Halverton, Matthew Drennan, David Fitzgerald, Kenneth Krahl, B. F. Louis and Searcy Baker, as officers of said City, their successors, agents and servants, and each of them, be and are hereby restrained and enjoined from enforcing said ordinance, which ordinance fixes rates to be charged by the complainant Company for telephone service within the City of Houston. and from interfering with plaintiff in charging and collecting such rates as will not produce more than a fair return upon its capital actually invested and said defendants are enjoined from imposing any of the penalties announced in said ordinance if the complainant should charge rates in excess of those prescribed by said ordinance.

II.

It is further ordered that the defendants and their successors in office, shall have the right, at any time, to apply to this court by a bill herein or otherwise as they may be advised for a further order or decree whenever it shall be made to appear that by reason of change in circumstances or conditions the rates prescribed by the ordinance above referred to are sufficient to yield plaintiff a fair return upon its capital actually invested, but this decree shall be without prejudice to the rights of the City of Houston to exercise its rate making power within the Constitutional limits.

III.

It is further ordered that the plaintiff herein and its successors and assigns shall have the right at any time to apply to this court by a bill filed herein or otherwise, as they may be advised, for a further order or decree whenever it shall be made to appear that any rate fixed by ordinance of the City of Houston is insufficient to yield plaintiff a fair return upon its capital actually invested.

IV.

It is further ordered and decreed that all costs incurred herein be left for future determination by the Court, there being a substantial difference between the parties as to how the same should be assessed.

GEO. WHITFIELD JACK,

Judge.

Approved as to form.

JOSEPH D. FRANK,

For Plaintiff.

W. J. HOWARD,

For Defendant.

Endorsements: No. 108. In Equity. Southwestern Bell Telephone Company vs. The City of Houston et al. Decree. In the District Court of the United States for the Southern District of Texas, Houston Division. Filed Sept. 18, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

80

Petition for Appeal.

Filed Nov. 13, 1920.

In the District Court of the United States for the Southern District of Texas.

In Equity.

No. 108.

SOUTHWESTERN TELEGRAPH & TELEPHONE CO.

VS.

CITY OF HOUSTON.

The above named defendant, the City of Houston conceiving itself aggrieved by the final decree, order and judgment entered in the above entitled cause on the 18th day of September, 1920, hereby appeals from said decree, judgment and order to the Supreme Court of the United States, and it prays that its appeal be allowed and that a transcript of the record and proceedings and papers upon which said final decree order and judgment was made, duly authenticated, may be sent to the said Supreme Court of the United States.

And now at the time of filing this petition for appeal, the said City of Houston, appellant, files an Assignment of Errors setting up separately and particularly each error asserted and intended to be

urged in the Supreme Court of the United States.

And your petitioner will ever pray.

W. J. HOWARD,
N. C. ABBOTT,
Solicitors for Defendant.
City of Houston.

Endorsements: In the District Court of the United States for the Southern District of Texas at Houston. No. 108. In Equity. Southwestern Telegraph & Telephone Company vs. City of Houston et al. Petition for Appeal. Filed 13th day of Nov., 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

81

Assignments of Error.

Filed Nov. 13, 1920.

In the District Court of the United States for the Southern District of Texas.

In Equity.

No. 108.

SOUTHWESTERN TELEGRAPH & TELEPHONE CO.

VS.

CITY OF HOUSTON.

Comes now the City of Houston and files its Assignment of Errors, in the above entitled and numbered cause.

First Assignment of Error.

The Honorable District Court erred in holding and finding that the plaintiff Southwestern Telegraph & Telephone Company has invested in the Houston Exchange, as shown by its books, the sum of \$4,571,567.00, upon which it is entitled to earn a return, for the reason that the proof shows that in the said amount so shown by the books there was included a very considerable amount of property used exclusively in handling long distance calls, and further that the sum of \$700,000.00 was not being used and was not useful in rendering telephone service to the people in the City of Houston who were subscribers to such service.

Second Assignment of Error.

The Honorable District Court erred in sustaining, against defendant's exception No. 6 thereto, the report of the Special Master, approving the division of the receipts derived from the long distance calls originating in the exchange of the City of Houston, whereby only twenty five per cent of such receipts were credited to the local Houston Exchange and added to its receipts, for the reason that the proof showed that such twenty-five per cent would not pay the expense incurred by the said Exchange in the City of Houston in handling such long distance calls, and the plaintiff which owas both the local exchange and the long distance lines, both of which were engaged in handling such long distance calls made no attempt to show to what extent the local exchange property was valuable in handling such long distance calls and to what extent it should participate in the profits derived from handling such long distance calls.

Third Assignment of Error.

The Honorable District Court erred in overruling defend-89 ant's exception No. 7 to the Special Master's Report, and in approving the report of the Master that the 41/2 % of the gross revenues of the Houston Exchange, paid to the American Telephone & Telegraph Company, under what is known as the A. T. & T. License Service Contract, whereby the American Telephone & Telegraph Company collects from the exchange in the City of Houston 41/2% of its gross earnings in payment, as claimed by the American Telephone & Telegraph Company for certain instruments furnished and certain service claimed to be rendered such Houston Exchange under said contract was a legitimate operating expense to be deducted from the earnings of the local Houston Exchange, because the proof showed that the American Telephone & Telegraph Company owns ninety nine and a fraction per cent of the stock of the plaintiff, the Southwestern Telegraph & Telephone Company, which operates the Houston Exchange and only the cost of such service should be deducted from the revenues and charged to the expense of operation. and there was no attempt made by the plaintiff to show the cost or rental value of the instruments furnished, or the cost of the service claimed to have been rendered the Houston Exchange.

Fourth Assignment of Error.

The Honorable District Court erred in approving against defendant's Exception No. 8 that the allowance was excessive, the report of the Special Master, allowing the plaintiff as a reserve for depreciation a rate of 6.33% on \$4,571,567.00, the value of the property as found by the court, for the reason that such a rate is excessive, the weight of the evidence showing that \$4.00 per station or 4% annual annuity was sufficient to create a proper reserve for depreciation.

Fifth Assignment of Error.

The Honorable District Court erred in overruling defendant's Special Exception No. 10 to the Special Master's Report, and in approving such report and finding of the Master, that the plaintiff should receive a return of 8% upon its capital invested in the exchange in the City of Houston, and that any rate of return less than that would be confiscatory, for the reason that such rate of 8% is much in excess of the legal rate, which is 6% as fixed by the Statutes in the State of Texas, and as disclosed by the proof is much in excess of the generally prevailing conventional rate on well secured loans in the community, and much in excess of a rate that could be deemed confiscatory within the meaning of the Fourteenth Amendment to the Constitution of the United States.

Sixth Assignment of Error.

83

The Honorable District Court erred in overruling defendant's exception No. 12 to the Special Master's report, and in not holding that the plaintiff had failed to do equity and had no standing in a court

of equity, and in failing to dismiss plaintiff's bill for want of equity for the reason, that it appears from the proof and from the findings of the Master, and the findings of the Trial Court that the American Telephone & Telegraph Company owns practically all of the stock in the plaintiff's company, namely the Southwestern Telegraph & Telephone Company which operates the local exchange in the City of Houston, and also practically all of the stock of the Western Electric Company which manufactures the greater part of the supplies and equipment that are used in the extension and the operation of said local exchange, and the plaintiff made no full or fair disclosure as to the prices charged and the profits realized by the Western Electric Company upon the supplies and equipment so furnished to such local exchange, and upon which prices the rate of return to plaintiff is sought to be based, but it was affirmatively shown from the evidence that the said Western Electric Company on the supplies and equipment furnished the Houston Exchange charged excessive and exorbitant prices, upon which prices it is basing the rate of return on its property to be collected from the subscribers to the service furnished by said exchange to the people of the City of Houston.

Seventh Assignment of Error.

The Honorable District Court erred in not holding that the plaintiff had no standing in a court of equity and in failing to dismiss plaintiff's bill, for want of equity, because it appears from the evidence that the plaintiff owns not only the local telephone exchange in the City of Houston, but also the long distance lines connecting with such exchange and that all the expense of handling the long distance calls is charged to the local exchange, including its operating expense, and that large sums are received as tolls for long distance calls, which are handled by both the local exchange and the long distance lines and no attempt was made by the plaintiff to effect a division of such receipts between the local exchange and the long distance lines in any fair or equitable manner based upon the amount

invested by each, or the services performed by each, or upon any other basis with a view of accuracy, but the plaintiff merely arbitrarily apportioned to the said local exchange only 25% of the receipts for outgoing calls.

Eighth Assignment of Error.

The Honorable District Court erred in not dismissing plaintiff's bill for want of equity, it appearing that the American Telegraph & Telephone Company which owns practically all of the stock of the plaintiff company which operates the local Houston Exchange, arbitrarily deducts from the earnings of the local exchange $4\frac{1}{2}\%$ of its gross earnings, without attempting to show what it costs to supply the service for which the $4\frac{1}{2}\%$ is taken, and it further appearing that the plaintiff, which under the domination of the American Telephone & Telegraph Company, pays to the Western Electric Company practically all of the stock of which is owned by the American

Telephone & Telegraph Company, 4% on all purchases of supplies and equipment, purchased by the local exchange without attempting to show what the cost of such purchasing agency is, thereby making it impossible to determine the revenues and expenses of the local Houston Exchange.

Ninth Assignment of Error.

The Honorable District Court erred in holding that the ordinances of the City of Houston, prescribing the rates that could be charged for telephone service in the City of Houston were confiscatory and violated the Fourteenth Amendment to the Constitution of the United States, and in rendering judgment enjoining the defendant from enforcing such ordinances, because it was impossible to determine from the evidence what the revenues received by the plaintiff from the operation of the Houston Exchange were or what the expenses incurred in the operation of such exchange were.

Wherefore, the defendant, the City of Houston, prays that said order, judgment and decree of the District Court of the United States for the Southern District of Texas, be reversed.

W. J. HOWARD, N. C. ABBOTT, Solicitors for Defendant the City of Houston.

Endorsements: In the District Court of the United States for the Southern District of Texas, at Houston.—Southwestern Telegraph & Telephone Co. vs. City of Houston et al.—No. 108 in Equity.—Assignments of Error.—Filed 13 day of Nov., 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

35

Order Granting Petition for Appeal.

Filed Nov. 17, 1920.

In the District Court of the United States for the Southern District of Texas, at Houston.

In Equity.

No. 108.

SOUTHERN TELEGRAPH & TELEPHONE COMPANY

VS.

CITY OF HOUSTON et al.

On this 15th day of November 1920, there having been presented to me the petition of the defendant the City of Houston for an appeal to the Supreme Court of the United States filed in the above

entitled and numbered cause on November 13th 1920, whereby the said defendant City of Houston petitions to appeal from the judgment and decree entered in said cause on the 18th day of September 1920 and the said petition having been fully considered by me, it is ordered that the said appeal be and the same is hereby allowed as prayed and it appearing that the defendant City of Houston is a municipal corporation, no appeal bond is required on said appeal.

GEO. WHITFIELD JACK.

U. S. Judge, Sitting in the District Court of the United States for the Southern District of Texas, at Houston.

Endorsements: No. 108. In Equity. In the District Court of the United States for the Southern District of Texas at Houston. Southwestern Telegraph & Telephone Company vs. City of Houston et al. Order granting petition for appeal. Filed 17 day of Nov. 1920. L. C. Masterson, clerk, by J. L. Sexton, deputy.

86 UNITED STATES OF AMERICA, 88:

The President of the United States to Southwestern Bell Telephone Company, and Messrs. J. D. Frank, W. H. Duls and John Charles Harris, solicitors of record, Greeting:

You are hereby cited and admonished to be and appear at a term of the Supreme Court of the United States at Washington, according to law, within thirty days from the date of this writ, pursuant to an order allowing an appeal filed in the Clerk's office of the District Court of the United States for the Southern District of Texas, wherein The City of Houston is Appellant, and Southwestern Bell Telephone Company, Appellees, to show cause, if any there be, why the decree in said cause mentioned, should not be corrected, and speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Edward D. White, Chief Justice of the United States, this 15 day of November, A. D. 1920, and of the independence of the United States the 145th year.

[Seal of United States District Court, Southern District of Texas.]

GEO. WHITFIELD JACK, United States District Judge.

[Endorsed:] Please endorse waiver of service on this original. United States District Court, Southern District of Texas. No. 108, Equity Docket. Southwestern Bell Telephone Company vs. City of Houston, et al. Citation on Appeal to Supreme Court of the United States. Issued 15 day of Nov. 1920. I. C. Masterson, clerk, by J. L. Sexton, deputy. Returned and filed 23rd day of November 1920. L. C. Masterson, clerk, by J. L. Sexton, deputy.

Receipt of copy of this citation is hereby acknowledged and service thereof waived.

J. D. FRANK, Solicitor.

November 20, 1920.

87 Testimony in Support of First Assignment of Error, Relating to Cost of Property.

Mr. A. E. Scott, a witness for the Plaintiff, was duly sworn and testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

My name is A. E. Scott, and I live at St. Louis, Missouri. I am one of the statisticians of the Southwestern Bell Telephone Company,—Southwestern Bell Telephone System. I have been connected with the Southwestern Bell Telephone System for seven years, having been in the accounting department all of that time Prior to that time I had had about eleven years' accounting experience.

In 1900 I went with the Spague Electric Company, which is a branch of the General Electric Company, that is a branch of the General Electric Company, at Watsessing, N. J. I was employed there for three years in the cost department, preparing estimates of the cost of articles that were manufactured there. This was a manufacturing plant, and I prepared the estimates of the cost, and also prepared a record of the cost of the articles manufactures there. I went in there as stenographer, but I was there as stenographer only a short time and then worked into the clerical end of it. After spending three years there I went with the Thompson Machine Co. of Bellville, N. J., and did the same kind of work there, and in

addition did some part of the general bookkeeping work. I 88 was only there two years, and then went to Brooklyn, New York as office manager and general bookkeeper for the Brooklyn Builders' Supply Co. I did all classes of clerical work and general accounting and bookkeeping with the Brooklyn Builders' Supply Co. I worked for them six years. After that I left Brooklyn N. Y. and came to St. Louis. For about seven months I sold a line through Missouri, traveling salesman, and did some auditing and various clerical work for a few months, until November 1st, 1912, and at that time I came with the telephone company. 1912 I began working in what we call the Disbursements Department of the Accounting Department. My duties were of a very minor nature at first. I prepared bills, compiled summaries of expenses. I stepped out of that in a very short time into what they call the Voucher Clerk Job. I had charge of the voucher books and did all the posting, and prepared all the vouchers issued by the disbursements division for the payment of bills. I was on that about

89

two years, and from that I was promoted to be general bookkeeper for one of the companies at St. Louis.

Q. One of the telephone companies?

A. Yes, sir.
Q. What company was that?
A. What was known then as the Bell Telephone Company of Mis-They operated in the eastern part of the State.

Q. You had charge of all their bookkeeping?

A. Yes, sir, or all of the books.

Q. Did you have any men working under you?

A. Yes, sir, from twelve to fifteen people working under me. Q. That is, accountants?

A. Yes, sir.

Q. All right, go ahead. A. After being on that until December, 1916, this Bell Telephone Company of Missouri was consolidated with what was known as the Missouri & Kansas Telephone Co. That re-ulted in my position being abolished, because the general bookkeeper of the Missouri & Kansas Company took over the duties I had. I then did general work of a special nature through the department, and made audits until May, 1918, and in May, 1918, I was appointed to the position of Supervisor of Accounting Methods. I had full charge of all the accounts, -accounting methods in the System, through the field and also in the general offices, establishing systems and seeing that it was followed out. I was on that until the spring of this year, in May, when Mr. Benzel, who has been Statistician, was promoted to be General Manager in Kansas, and at that time I took over his duties as Statistician.

Q. In all, how many years' experience have you had in the ac-

counting line?

A. About eighteen years altogether.

Q. What is the Southwestern Bell Telephone System, is that a cor-

poration?

A. No, sir, that is a name. It is a group which operates through the states of Missouri, Kansas, Arkansas, Oklahoma and Texas, and a small part of Illinois.

Q. Group of Telephone companies?

Yes, sir. 90

Q. Just name the various companies constituting the

Southwestern Bell Telephone System?

A. The Southwestern Bell Telephone Company of Missouri is operated in Missouri, Kansas and Arkansas. The Southwestern Bell Telephone Co. of Illinois is operated in the Western part of Illinois in three towns; it is a very small company. The Southwestern Bell Telephone Co. of Oklahoma is operated in the state of Oklahoma, and the Southwestern Telegraph & Telephone Co., that is a New York corporation which operates in the State of Texas.

Q. The Southwestern Telegraph & Telephone Co. is the Company

which operates in state of Texas?

A. Yes, sir.

Q. And that is the Telephone company which owns and operates the telephone exchange in the City of Houston?

A. Yes, sir.

Q. All of these companies named by you constitute what is known as the Southwestern Bell Telephone System?

A. Yes, sir.

Q. And the Southwestern Telegraph and Telephone Company is a part of that system?

A. Yes, sir; that is right.

Q. Mr. Scott, are you familiar with, and have you access to the books of the Southwestern Telegraph & Telephone Company?

A. Yes, sir. I have access to all of their records and accounts.

Q. Mr. Scott, have you prepared from the records of the Company a statement of the total cost of the property constituting the Houston telephone plant?

A. Yes, sir, I have.

Mr. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 10.

(See page 66.)

92 Q. This is total cost, as shown by the books, is it? A. Yes, sir.

Q. Now, you testified that this company was organized in 1883. I notice that your statement begins from the year 1901. Explain to us why you haven't gone back to the year 1883, or whatever year it was the company began operating in Houston, 1887 or 1888?

A. Prior to 1901 no records of the cost of property were kept by exchanges. We kept the total cost of the property for the company as a whole, but in 1901 it was decided by someone that it was desirable to have cost by exchanges, and this amount of \$318,367.54 shows as the amount for Houston, it was the amount by apportioning. They had no cost prior to that time by exchanges.

Q. And the amount of property in Houston, according to that ap-

portionment, in 1901, was \$318,367.54, was it?

A. Yes, sir.

Q. Then, subsequent to that time your books show, do they, what was the cost of the physical property?

A. Since that time the effort has been made to keep the cost of

property by exchanges.

Q. In the last column you show the number of stations, do you mean by that the number of telephone stations in the city of Houston, for each of these years from 1901 down to the present time?

A. Yes, sir, that is what we call "company owned stations."

Q. Has the increase in the number of stations kept pace with the increase in the cost of new stations here?

A. Yes, sir; I think they are quite in proportion.

Q. What does your statement show, Mr. Scott, as to the date upon which this statement was prepared?

93 A. It shows that on September 30th, that is the date we have, 1919, that the cost of the property at Houston, accounted to \$4,810,385.40.

Q. Does that figure, Mr. Scott, include anything for that part of the valuation of the plant known as-that part of the cost known as the "going concern"?

A. No, sir, it does not.

Q. It does not show anything of that kind?

A. No, sir.

Q. Now, you have a statement here of the Intangible Capital,

\$754,979.80. Explain to us what that is.

A. That probably requires a little explanation. A great many companies which are capitalized-over-capitalized, and have water in their stock, or for other reasons have an item of intangible capital, or good will, or various names which have no real intrinsic value behind it, and does not represent anything, but simply an amount necessary to balance the capital issue with the assets of the company. This item "intangible capital" here is an entirely different thing; this actually cost us money, and got on to our books in connection with the Houston Home Telephone Co. property. The statement in the lower part shows how we got this figure. We purchased the Houston Home Telephone Company in September, 1915, and we paid \$1,359,740.94 for it. We find from our records that there are still properties of the old Houston Home Telephone Co. in service amounting to \$468,145.50. That leaves a balance of \$891,595.84.

Considerable of the property which we acquired in 1915 was taken down and some of it has been sold and some of it has been junked. We have secured salvage, or obtained in sale prices an allowance or credit of \$136,616.04, leaving a balance of \$754,979.80, intangible capital which actually cost us money here

Q. Actually paid out that money for the property? A. It represents an actual expense to the company.

Q. Mr. Scott, do you have any particular rules with reference to your system of accounting?

A. Yes, sir, we operate under the rules of the Interstate Commerce Commission, and have done so since January 1st, 1913.

Q. That is under the Federal Act requiring you to keep your books in accordance with the provisions of the Interstate Commerce Commission?

A. Yes, sir. Q. Have you a copy of the rules prescribed by the Interstate Commerce Commission?

A. Yes, sir.

Mr. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 11.

(The document was thereupon received in evidence, and marked Plaintiff's Exhibit No. 11, as requested.)

Q. Mr. Scott, does the Interstate Commerce Commission make any rules with reference to your accounting and handling of transactions of this kind where you have purchased property?

A. Yes, sir.

95 Q. Will you explain that to us?
A. Yes, sir. I think I can explain it better by reading their instructions. Page 33, Section 13, as follows:

"13. Plant and equipment and other property purchased.-When any property in the form of a going or completed plant is purchased, an appraisal of the property so acquired should be made, and the different constituent elements of the plant (and equipment, if any) or other property acquired should be appraised at their structural value; that is to say, at the estimated cost of replacement or reproduction less depreciation to the then existing conditions through wear and tear, obsolenscence and inadequancy. If the qctual money value of the consideration given for the plant or other property was at the time of the acquisition in excess of such appraised value, the excess should be charged to account No. 204, "Other Intangible Capital," and the appraised values of the cons-ituent elements should be charged to the appropriate fixed capital accounts as hereinafter designated. If the actual money value of the consideration given was not in excess of such appraised value, such actual money value should be distributed through the said accounts in proportion to the said appraised value of the constituent elements approximate to the respective accounts. Companies should be prepared to furnish the Commission, upon a demand, a full report of the contract of acquisition, the consideration given therefor, the determination of the actual money value of such consideration if other than money the appraisal, and the amounts charged to the respective accounts for each plant or other such fixed capital purchased.

96 purchaser is required to procure in connection with the acquisition of any such plant or other fixed capital all existing records, memoranda, and accounts in the possession or control of the grantor relating to the construction and improvement of such plant, and to preserve such records, memoranda, and accounts until authorized by law to destroy or otherwise dispose of them."

Q. You followed those rules of the Interstate Commerce Commission in connection with this transaction?

A. Yes, sir.

Q. Mr. Scott, at the bottom of this statement I notice a statement like this: "Book figures do not measure present value or even

original cost." What do you mean by that?

A. In the first place, as I stated before, we did not have the original cost to start with. We made an estimate in 1901 that may have been correct, it may have been too high, and may have been too low. So to start with, we haven't got the original cost. Then we were not keeping our accounts from 1901 up to 1913 under the rules of the Interstate Commerce Commission. We had kept a system from 1910 which was practically the same as the Interstate Commerce Commission installed, but up to that time we had kept a system which was considerably different from the Interstate Commerce Commission, and under which many items which are now capitalized were not capitalized.

Q. Will you mention some of those items which they require you to capitalize which you were not capitalizing prior to that time?

A. I have in mind the "interest during construction." That 97 is one of the items not capitalized. "Engineering Expenses" which was all charged to maintenance in those times. Supervision" was charged to expense and not capitalized, and a small part of the general expense. So there is a considerable amount of cost which under our present accounting would be included in the book cost of our property if we had operated under the Interstate Commerce Commission, rules at that time.

Q. Mr. Scott, can you exercise your own pleasure as to whether

or not you follow this system of accounting, or not?

A. We have no discretion. There is a penalty not to comply with the instructions.

Q. That is under the Federal Law? A. Yes, sir.

Cross-examination.

(Questions by Mr. Howard:)

Q. You speak of this Home Telephone Company. In Exhibit 10 you show you paid \$1,300,000 for that, in round numbers?

A. Yes, sir.

Q. And you have of it in use something like \$400,000?

A. \$468,000.

Q. Leaving a balance of some \$800,000?

A. Yes, sir.

Q. And you salvaged something over \$100,000 out of that, leaving a balance of \$700,000?

A. \$754,000.

Q. The only benefit the people of this community got out of 98 that \$754,000 was the fact that a competing telephone line was eliminated?

A. The only benefit—I think that is rather a large benefit. Q. That is the only benefit they get out of it. That represents in the set up of your company, it represents the elimination of a com-

petitor?

A. I am not showing that. I am showing what the property cost. This represents a new figure on our books. It is carried under "Intangible Capital" because not represented by physical property, and does represent an actual money expenditure.

Q. It means that in the purchase of this property the Southwestern Telegraph & Telephone Company paid more than the physical

property was worth by \$745,000?

A. Not more than the properties were worth, but more than they were appraised at at the time of the purchase.

Q. That is supposed to be the worth. The appraisal was for the purpose of fixing value?

A. To fix their value at the time of the purchase.

Q. This amount that is now in service is fixed by the companyvalued by the company at something over \$400,000?

A. Yes, sir.

Q. The salvage is a matter of accurate and definite determination?

A. Yes, sir, we got so much for it.

Q. And adding those two items represents the tangible benefit

derived from that investment, does it not?

A. That represents the physical property which is still in the account, and the amount of salvage which we have obtained from the property taken down. 99

Q. And the other is just nothing-nothing to the other unless it is eliminating a competitor, nothing else on earth

it can be assigned to in your set up?

A. It is for physical property. We have to carry it as Intangible Capital, but it did represent an actual expenditure.

Q. Something spent?

A. Yes, sir, for which we didn't get physical property.

Q. You mean money spent for something, and it is impossible to say what it was spent for?

A. No, sir, I would not say that.

Q. What would you say?

A. Money which we spent which was not for physical property, and could not be included in our plant account according to the in-

structions of the Interstate Commerce Commission.

Q. Then, the only reason on earth why that is set up now as an asset of the company, and carried on the books of the company is because of some rule promulgated by the Interstate Commerce Commission saying that where it appeared there was an item like that that could not be accounted for, it should be carried under the head "Intangible?"

A. It could be accounted for. I have quite definitely accounted

for it.

Q. It is accounted for. You accounted for it by showing it is the difference between the amount of money they paid and the amount of physical property they got?

A. Yes, sir.

Q. That is the way?

A. Yes, sir.
Q. And you charged it up as an asset and something to be 100 added to the capital used in this exchange, and for the users of the telephone company to pay a rate on?

A. I am simply showing here what the books show, and as to what

the property at Houston cost.

Q. You supervise the keeping of the books, and the items that

are to be carried?

A. Yes, sir. I wouldn't have any lee-way as to how I would show this, because this is the way it has to be shown in accordance with the rules of the Interstate Commerce Commission.

Q. You are not authorized to charge it off as something that does

not really exist?

A. It is being charged off-it can be charged off, being part of the expense, and it can be amortized from year to year. We are amortizing our capital-

Q. What do you mean by that?
A. To charge off a proportionate part each year until such time as the amount will be wiped out.

Q. Absorbing it?

A. Yes, sir.
Q. Instead of paying it off at one fell swoop, it would be too burdensome, and you try to lessen the load from year to year and pay it off that way?

A. Yes, sir.

Q. These cost items you set up-in what exhibit is that, Mr. Scott the cost of the property by years?

A. That is Exhibit No. 10.

Q. And you get a valuation of \$4,810,385.40, the book 101 value of the property, as of September 30th, 1919?

Q. Now, Mr. Scott, do your book accounts show the cost of any telephone equipment or telephone equipment in Houston, which is

used for toll business?

A. Yes, we keep the accounts by exchanges and make no separation of the Central office equipment at a town as between what is toll central office equipment and exchange central office equipment. The toll equipment would be included in my figures, in this Exhibit No. 10, that is simply the toll central office equipment.

Q. That matter is taken care of by the engineers in making their

appraisal of the exchange?

A. Yes, the central office is not divided, central office equipment, as between exchange and toll.

Q. Any toll lines included in these book figures here?

A. No, sir, there are no toll lines included in that. They are reported as toll and are carried in our toll accounts.

Q. That is purely then-

A. (Interrupting.) This is purely exchange property with the exception of the toll central office equipment.

Q. Mr. Scott, your books since 1901 simply show the net additions

to property, do they not?

A. Yes, sir.

Q. Then you don't show on your books there the cost of any replacements, it is just simply the net additions to the plant from year to year?

A. The net results of additions and removals. 102

Q. In other words, if say in 1912, you had two million dollars' worth of property here in Houston and you removed one million dollars' worth of that property and you added two million more, what would your books show them with reference to the cost of this property?

A. It would show that we had added one million dollars to the

property.

Q. It would show that you had added one million dollars?

A. Yes, sir.

Q. And do not reflect the replacements which have been made from year to year?

A. That is right.

Q. Counsel has asked you concerning this cost of the property as shown by the books for the year 1901. What is the amount?

A. \$318.367.54.

Q. And what do your books show with reference to the total cost of this property?

A. \$4.810.385.40.

Q. Now, you don't know whether that first figure there is correct or not, you are just simply taking the books as they exist?

A. Yes, sir.

Q. You don't know whether that first figure there is correct or

A. No, we do not know that it is absolutely correct.

Q. You merely know that that is what is shown by the books? A. That is right.

Q. Mr. Scott, what per cent, of this \$4,810,385.40 does this \$418,367.54 represent?

A. Less than 7% of the total property.

Q. Less than 7% of the total property?

A. Yes, sir.

Q. Then as to the rest of it, that is, the other 93%, your books have been kept so as to show those net additions each year?

A. Yes, sir.

Q. And other than the fact that you have not included certain items which should have been included as a part of capital expenditures there, these books are fairly accurate?

A. Yes, I think so.

Q. Now, counsel has asked you concerning the price which was paid for this property of the Houston Home Telephone Company. These figures which you have on your book here merely reflect that part of the cost of that property which is known as bare physical plant, do they not?

A. Yes, sir, that is included in the physical property.

Q. Those books do not show anything with reference to that part of the plant of the Houston Home Telephone Company when it was in existence, which would come under the heading of "Going Concern Value?"

A. No, sir.

Q. It is just simply the bare bones of the plant which have been put on?

A. Yes, sir.
Q. Now, Mr. Scott, counsel has asked you about this \$754,979.80 and says that represents money which you have paid out for nothing.

or something to that effect. Wasn't that the appraised value 104 of that property at the time it was purchased, that is, the entire purchase amount there, \$1,359,000 in round numbers, that is what that property was appraised at at the time of its purchase, was it not?

A. Well, the entire property was appraised at that, but the physical property was not appraised at that.

Q. That is the entire property?

A. Yes, sir.

Q. Those books do not show any allowance for engineering and the various items that enter into the valuation of a telephone plant, do they? You hav-n't any such item as that included in your books there?

A. Well, the physical property was appraised by the engineers or rather some of them on the basis of what it was worth at that time. That may include engineering, or it may not. I am not familiar with the appraisal, how it was taken. A part of this money was paid to the City of Houston, was it not?

A. I understand there was an amount of some \$80,000, which was

paid to the City of Houston.

Q. Which was paid to the City of Houston for a certain interest which it claimed in this property?

A. Yes, sir, I understand it so.

Q. And that is part of that \$750,000 here, is it not?

A. Yes, sir.

Q. That is not shown on the books, is it?

A. No, sir, that is the only place it shows, is in the \$754,000.00.

105 LAMAR LYNDON, a witness for the Defendant after being sworn testified as follows:

Direct examination.

Questions by Mr. Howard:

I have been sworn in this hearing. My occupation is that of a Consulting Engineer. My training to fit me for engineering work has been that I spent nearly eight years in technical schools, the University of Georgia, Stephens Institute of Technology and Cornell University. I have a degree of Bachelor of Engineering from the University of Georgia, which is a Civil Engineering degree. I pursued special courses at Stephens Institute and Cornell, and I have no degree from either of those colleges. I have an engineering degree from the University of Georgia.

I am a member of the American Society of Civil Engineers, and I am a Fellow of the American Institute of Electrical Engineers. The two are prominent bodies of experts, engineers and scientists who are in the particular lines of work that are generally classified under civil engineering in the one case, and electrical engineering in the other, and are the recognized bodies in the United States and

likewise abroad of men skilled in those arts.

Q. Mr. Lyndon, in either or both of these societies is there any system of discrimination, or rather, of exclusiveness. I don't mean exclusiveness as it might prevail in some of your Eastern clubs, where personal geniality and your amount of money that you might have might determine your membership,

but where it is determined from the standpoint of scientists?

A. Well there are degrees of membership in both of these bodies. There are four in the American Society of Civil Engineers, and there are—I am not sure that I remember them exactly, but I believe, Junior members, Associates, Associate Members, and Mem-

bers, being of course the final and highest stage possible in the as-

sociation.

This is the American Society of Civil Engineers; I am a member. Then in the American Institute of Electrical Engineers there are likewise four orders of membership of which, if I remember, correctly, they are Junior, Associate Members and Fellows. I am a Fellow in the Institute; that's the highest branch in that Society.

I have been engaged to some extent in scientific research and pursuits; I have written books, papers and made contributions to standard works in that regard. 'My work on the storage battery entitled "Storage Battery Engineering" is the standard work upon that subject in the English language, and is in the use of the United States Army, the United States Navy, The War College and several colleges, and Universities.

I testified here some time ago in what was known as the Street Railway Company Hearing. That Company set the precedent of exhibiting some of the books of some of the witnesses that testi-

fied in behalf of the company. I have the book just referred

to in the collection here. This is the English edition and 107 it has been translated into the French language in this copy. (Referring to books.) One is English and the other a French translation. I have never known of an English work translated into the French language other than this one. It is quite possible, but have never known of one. I regard it as some considerable compliment to my work that it was translated into French. I don't know personally how it is looked upon by the French people and French scientists, but I understand that it is favorably regarded. certainly read it in French. It is written as a practical reference book for engineers, but has been adopted as a text book by several s-hools and colleges. I do not know whether it is used to any great extent as a reference work by engineers in actual practice; I see it in the libraries whenever I visit them and suppose they bought it for a purpose. I mean that it is in the libraries of nearly all well equipped engineers.

Q. Do you know in what colleges, if any, this work is used?

Mr. D. A. Frank: I don't see what difference it makes. He says it has been translated into French and is used by a great many colleges. There is not any dispute about it because it is a book on storage batteries and is not relevent to telephony.

Mr. Howard: Storage batteries have some connection with tele-

phony.

Mr. D. A. Frank: Why, they have some connection.

Mr. Howard: Are you questioning at all the ability of this wit-

ness?
Mr. D. A. Frank: Oh, absolutely. I don't think his ability is shown by the number of schools that have adopted his book.

(By Mr. Howard:)

Q. Do you know, briefly, Mr. Lyndon, what colleges if any, this book is used by?

A. No. I have been told by the publishers from time to time -

Mr. D. A. Frank: I object to it as hearsay. The Master: Tge objection is sustained.

A. I do. Mr. Kelsey reminded me it was used in Perdue, and at one time I know the publishers informed me it was being used by twelve different colleges. I think—that included the United States War College. I happen to know of that.

(By Mr. Howard:)

Q. Does this book deal exclusively with storage batteries? Or does

it cover other subjects?

A. Well it deals with a large number of branches of electrical engineering, to which branches storage batteries are, or may be allied. It even goes into alternating current theories and electrical-magnetic theories, and is very mucy broader in its scope than its title as a storage battery work would indicate.

I have written other books and made other scientific contributions; I have written a work in two volumes on Hydro-Electric power. That is a work which speaks on the development of water powers, the conversion of the energy from hydro-development to electrical energy, power station equipment, long-distance transmission and the general theory of electric service computations, and

transmission lines.

Those are all the books on that subject; these are the 109 volumes and I am the author of the books. I know that the work was selected after consideration of all others on that subject by Armour Institute, and I understand, that one of the colleges here in Texas, the one that Dr. Nagle is President of, I believe the Agricultural and Mechanical College, that I am not sure of, but I understand it is used there, and the publishers have informed me that three or four colleges had adopted it. It is a comparatively The reviews of the work in all technical and scientific new work. journals were very satisfactory and in the English Review, Mr. Kilbourn Scott, reviewing this for the London Electrician was sufficiently pleased with it to write me a personal note about it, which is a bit unusual. Its sales could indicate that it is a well received The United States Government established an over seas technical library, in which it selected one hundred works on all scientific subjects; electricity, hydroulics, chemistry and every other scientific subject and selected one hundred books out of the entire number that were available, and this book was one that was selected, and they sent a thousand volumes to France, and from this it is indicative to my mind that it has been received as a standard work, by the engineering profession.

Q. I hand you another book, Mr. Lyndon. Will you please tell us

what that book is?

A. This is electrical engineers hand book which is edited by Horatio Foster. This is a work that is and has been standard as an electrical engineers hand book for certainly fifteen, and

110 I think eighteen years.

Q. Mr. Lyndon, I believe I noticed that in the preface or some introductory statement in that book, where Mr. Foster says it is compiled or adopted by Collaboration of a great number of eminent specialists. Isn't there some such statement in there, or do you know?

A. Yes, he says with the collaboration of eminent specialists.

Q. Now, are you recognized by Mr. Foster and given credit as one

of the eminent specialists in that work?

A. I wrote two sections in his work, but the one which bears most on this case is the one on resionence and alternating current circuits.

Mr. D. A. Frank: I concede that Mr. Lyndon is an expert on batteries.

(By Mr. Howard:)

Q. Mr. Lyndon, had you finished on this question of reference?

A. Resionence is one of the most complex phenomena that we have in alternating currents and it was my attempt to clarify this subject and make east reading for any electrical engineer and it has some bearing on telephone work, because any subject or any treatise on scillating or pulsating currents is applicable to the theory of the telephone. The fact that the books are not more compilations but represent original work, original thought and new methods of treatment is indicated here by this work of Jumau. It is the most

comprehensive treatise on the storage battery, I think, that has ever been written. It is about a thousand pages and 111 therefore much too comprehensive to have ever been translated into English. It is in the French language, but on,-beginning on page 827 and continuing and including page 843 of this work, Mr. Jumau has taken my original work and the mathematical investigations of certain automatic dynamo electrical machines and followed them through vertabim as I originally gave them, and on each page, or nearly each page he gives me credit for having done the original work, and having originally made the investigations which have become standard in all technical literature on the subject in every language.

Q. Mr. Lyndon, did you make any contributions to the Ency-

clopedia Britian-ica?

A. Yes, I wrote the section on transmission, in the new edition.

Q. Are you given credit for it there?

A. No. The commission to write that came from London to Dr. Lou Duncan, who was then my partner and I wrote the article and it was naturally signed by Dr. Duncan.

Q. Although it was written by you? A. Yes, I wrote it in toto.

Q. Mr. Lyndon, have you in recent time, been engaged in andy scientific investigations of any character?

A. Yes, I have been engaged in a great many and of various kinds,—considerable laboratory work.

Q. Have you not recently been on the staff of Thomas Edison? A. I was consulting engineer for Mr. Edison for about three years.

Q. During what period, Mr. Lyndon?

A. From the beginning,-no, from about the middle of 1916 to the end of 1918. —the end of 1919,—not the end. 112

I left the Edison Laboratory in August of last year, but Mr. Edison retained my name in its proper place on the pay roll for some time longer than that.

Q. Are you still associated in any way with Mr. Edison or have

you ceased your connection with him?

A. No, except I am retained by the Edison interests. I am under general retainer and I did some special work for them in December of last year.

Q. You have been engaged in other scientific work, in fact that

has been your life work.

A. Substantially,

Q. Without shocking your modesty as Mr. Frank so greatly fears, you feel with a becoming sense of modesty that you are somewhat of a scientist?

A. I think so, truly being oath.

- Q. Mr. Frank is very particular about your being under oath and we will save some time; Do you thoroughly understand you are under oath?
- A. Yes.
 Q. And it won't be necessary for Mr. Frank to remind you of it during the course of investigation?

A. It won't be necessary, but I don't object to it.
Q. Mr. Lyndon, did you ever manage a telephone company?

Q. I am surprised at you, Mr. Lyndon. Could you count a row of poles? A. Yes.

Q. Could you measure the number of feet of wire if we had the time to do it, and were paid sufficiently for it? 113

A. Certainly.

Q. You could compute the number of feet of conduit if you were told and given the dimensions of the conduit?

A. Yes.
Q. The length and breadth and thickness?

A. Yes.

Q. You could tell something about the different panels in a switch board, the number of jacks and things of that kind,-you know something of those things?

A. Yes.
Q. You could tell the number of cubic feet, I believe, of a trench in which a conduit is carried?

A. Yes.

Q. And you could make, without any great strain all the mathematical computations that are necessary to do that?

A. Certainly.

Q. Now, could you conceive of the idea, Mr. Lyndon, of your

being able to take a staff of boys, bright, quick energetic boys, and going over a telephone plant and joiting down the different material items of physical property that constitute it, setting them down on paper to tabulated form, you could do that you think

A. Surely.

Q. You never did do it personally, did you. That is get right out

on the ground and do it.

A. I don't recall ever having done it personally with a telephone system.

Q. You have done it in other utility property?
A. In other utilities, yes, but I don't recall any telephone 114 system at the present time that I personally went over and made an inventory.

Q. You wouldn't at all be stunned or confounded with the proposition of undertaking to prepare an inventory like that or to supervise

A. Oh no.

Q. You feel very confident you could do it and get it up in just as good form as that?

A. Yes. It's not a matter of any difficulty for any engineer.

Q. But concerning this appraisal, that's something that's pretty hard to do, to take a list of these things, after you have the list, to take a catalogue or write to the factories and get prices and set them down opposite the list, you can do that?

A. Yes, it isn't difficult, merely tedious.

Q. In other words, it's clerk work really instead of work that a man who values his time very highly would engage, in?

A. Yes. Q. Mr. Lyndon, you never operated a telephone a day as I understand you?

A. No.

Q. You never tried to manage a telephone company?
A. Never did.

Q. You could not afford to do so on the salary usually paid the manager of the local telephone property, that is considering your material interest?

A. I am not sure, but I hardly think so.

Q. Assuming that they are paid \$5,000.00 or \$6,000.00 a 115 year-you would not want to undertake it for 8 or 10 thousand a year?

A. No.

Q. You would not want to adopt that kind of work?

A. Certainly not.

Q. Mr. Lyndon, is there any reason why a good, intelligent, bright, young man, to say nothing of an engineer, who has never managed a telephone Company, bringing his faculties to bear upon the problem and properly valuating a telephone property.

A. No, the valuing of any public utility does not require a high order of intelligence or intellectual work. It is a matter mostly of

routine and detail.

Q. And is usually delegated by the supervising man to his assistants or subordinates?

A. Yes, practically always, that is practically always in the cases that I personally know of. I don't know the methods that are

adopted by the Bell Company.

Q. Is there any reasons, Mr. Lyndon, why a man that never saw a switch board or don't have any more * * * has no conception whatever of how the switches and changes, the mechanism that transmits the voice from one person to another, for them to be absolutely ignorant of that—is there any reason why he should have a thorough conception of that in order to valuate physical properties, to permit of that being done?

A. No, a technical knowledge of the operation of any utility is not even remotely connected with the valuation of it after it has once been installed no more than the owner of a ware house with

furniture and potatoes in it should be required to be a farmer and potato expert, and likewise a timber grower and an expert in the manufacture of furniture in order to determine the value of what he might have in his warehouse. The values are fixed by the facts that the property exists; you don't have to know what's in it or behind it provided you assume that the engineers who placed it were intelligent, and if the company that paid for it was honest. There are the only essentials; everything comes from the fact that the property is there and the cost is on the company's books, or if reproduction values be adopted you simply get the cost of this apparatus from the manufacturer and don't care what it's name is, or how it works, * * * it cost so much money and here it is.

Q. Then, as I get it, you are not here with the idea that it takes any great expert to value this property, but any man of common sense and good judgment who applies himself to it for a reasonable length of time can do the work?

A. Unquestionably. There is no technical detail necessary. I am absolutely sure that the court can make just as good a valuation

as any engineer if given the time.

Q. You will give yourself credit for common sense and reasonably good intelligence?

Mr. D. A. Frank: I don't think the witness is competent to pass on his own mental qualifications.

Mr. Howard: I think that will be shown.

(By Mr. Howard:)

Q. I will give you credit for being a man of reasonably good judgment and common sense, and endowed by nature with pretty fair intelligence, but keeping in mind this modesty you will say that you have had sufficient and special training and informa-

tion that enables you to know something about the rules of electricity, and by the way, electricity has much to do with the transmitting of these sounds over the wires?

A. Yes.

Q. And receiving them and transmitting them, in fact, telephony is largely an electrical art, -considered such?

Q. Now, we will say then that you have in addition to this ordinary endowment in the way of intelligence of the average man, that you have a specific knowledge of electricity in the matter of conducting it, receiving it and transmitting it; you will confess to know that

much, won't you?

A. Yes.

Q. Then you have had a course in mathematics, I suppose, beyond Robinson's old higher arithmetic?

A. Yes. Q. But a man that has got a th-rough knowledge and familiarity with Robinson's Old Higher Arithmetic can make the necessary calculations?

A. He can make every one required for the valuation of a public utility.

Q. Well, I will not pursue your technical training beyond Robinson's Arithmetic, and you have got enough of that to know how to make all these computations in regard to trenches and conduits and to know the lineal feet and cubic feet of all these things?

A. Yes.

Q. Now is regard to the economics of construction, you are 118 something of a constructing engineer, are you not, Mr. Lyndon?

A. Yes.

Q. And to properly follow that profession you must know something about the economics of engineering and reaching the various points by the most direct method and so constructing plants so as to perform the functions in the most economical way, -you have put some study into these questions?

A. Yes.

Mr. D. A. Frank: Ask him and let him tell it instead of your telling it.

(By Mr. Howard:)

Q. Well, then, in a general way, Mr. Lyndon, just state,—he objects to my asking these questions. State how, in a general way, let us have your idea of the technical experience and knowledge that is necessary to properly valuate a public utility, to analyze its accounts its reserve fund that it might set aside to keep up its properties, and its administration of its expenditures and getting the best service out of the employees, and getting the most economical service in all these ways—what technical information and knowledge have you had?

A. To value a plant very little is required. A knowledge of arithmetic and the ability to understand accounts to a certain extent, and the ability to count the number of objects of different kinds and character and to make a list of them, and the ability to find the cost of each object and that is,—except the knowledge that must either

have come from long personal experience or come from the long personal experience of sombeody else and is merely stated to you about what amount is allowable for various over heads and what amounts are allowable for depreciation and computations of

that same character. Of course, it is obvious that no pro-119 fessional man, whether he be a lawyer, a doctor, or an engineer has one-tenth of his own knowledge from his own professional experience; life is too short. Most of the knowledge comes from the aggregate experience of other men that has been put in definite form, so that we can gain in one hour what other men have taken some years to gain; for instance, in these two volumes any engineer may read in two days or three, if he would apply himself to it, are concentrated six years of difficult experience and it is not necessary for the next engineer to pass through this same experience, and so it is that every engineer has a fund of knowledge which he has obtained from the experience of others, and I dare say it is true in law There is no experience reand I know it to be true in medicine. quired to get a very fair valuation of a public utility. reason why engineers are chosen rather than somebody else is that in the beginning valuations were made based on a knowledge of construction costs and the engineers were the only class of men who had that knowledge.

Q. That's just what I was going to ask you. I was wondering why it was that if an ordinary man could make those valuations, why we couldn't save something, why we couldn't get them instead of you Why are you here, and why are these high priced men engineers. that the company has brought here,-why are you all here?

A. Largely habit. It was first necessary to employ engineers to make valuations because things were hazy and nebulous. There were no books that were satisfactory and valuations had to be made with a full knowledge of construction costs, and the details

of construction costs, and the incidental architectu-al expenses that were incurred. Engineers were the only body of men who were competent to make any such estimates and in that way they became rather more accustomed to making figures on valuations and later, while books have become available,-by that I mean while public utility records have been kept in such a definite manner that there is no longer any estimating to do, why, as a matter of ability, and as a matter of facility, engineers have been making public utility valuations, but as I have stated, it is not a high order of intellectual work nor is it so regarded in the engineers profession.

Q. They have a little better understanding and better methods of getting at them, and have had naturally a little more experience

than the average run of men in thees matters?

A. That is all. Q. Mr. Lyndon, then in that capacity, and I suppose, somewhat as a diversion from your larger scientific works, you have at times, valuated some properties, a few of the-, have you not?

A. Yes. Q. Have you any of them in mind?

A. Well, the firm of Duncan & Lyndon had in hand the valuation

of a large number of independent telephone systems in 1907, for a corporation that intended to establish a system from coast to coast, in active competition with the Bell Company. I did not personally make any inspection or valuations. We had a staff of men who did the actual work and we took an occassional look over the documents. Then the electric system at Dover, N. H.; the system at Lynchburg, Va.; Charleston, S. C.; two at Harrisburg, Pa.; one at or near

Bristol, Tenn.; that was a hyro-electric plant and I have made 121 valuations on all public utilities in this city. These are all

that occur to me at the present time. Q. Then, when you were called upon to make a valuation of this plant you gave it due consideration and entered into it without any particular trepidation or misgiving as to your ability or experience when you undertook the task?

 A. Yes.
 Q. On page 18 of your echibit #2, Mr. Lyndon, what does that set up.

A. That's a table of aerial cables showing the amount on hand in 1901, or rather the cost as carried on the company's books, in 1901, with also subsequent additions down to the end of 1919.

Q. Showing you a total of how much?

A. \$574,326.00.

Q. As of what date?

A. January 1st, or December 31st, 1919. Q. Are there any removals shown on this? A. None.

Q. That's simply a matter of taking the company's books and stting up the costs of aerial cable as disclosed by them, taking the amount on hand in 1901 and making all subsequent additions?

The actual expenditures as disclosed by the company's

books.

Q. Now, Mr. Lyndon, on page 20 of your exhibit #2, I find a table,—what does that have reference to.

A. That's aerial wires. The value for the aerial wires in 1907. Q. First, Mr. Lyndon, does it bear the value you gave to that?

A. The cost price was \$91,033.00.

Q. Cost new? A. Yes.

Q. As of the end of the year 1919?

A. 1919, Yes.

Q. Now, please detail to us how you arrived at that figure? A. The explanation of this figure is best shown by the quotation which I make from the report of 1918.

Mr. J. D. Frank: What page, Mr. Lyndon?

A. 113. (Reading from report.) "The values of aerial wires s given by the telephone company's books, are so much greater han the values either shown by our inventory or claimed by the ompany, that some assumption must be made in order to reach any onclusion as to its value. The annual depreciation and present inventory shows the amount of aerial wire in place of having a first

cost of about approximately \$115,000.00. This value is reached by a applying the company's unit prices to the inventory, and which, by the way, is the company's inventory. The company's books show a total cost value of \$267,933.00, or more than twice as much as the company claims to own."

Q. You say the company claims to own. How do you determine

what the company claims to own?

A. By the company's inventory and its unit prices,—the amount of wire on hand as shown by the company's inventory and the unit prices and costs.

Q. Now, is that a departure from the history of the company of— In this particular instance have you departed from the costs,—origi-

nal cost of the property and set it up on another basis?

A. Whether it is a real departure or not is open to question. It is definitely a rejection of the book figures because the book 123 figures of material on hand did not then in any way correspond, and we felt and still feel that whereever the company has not the property on hand commensurate with the figures written on the books, that the property in the service of the public should be the ruling factor, and in that much we have departed in this one in-

Q. This would indicate from the company's books that they had brought a great deal of wire at one time that was not at the time put

in the industry.

A. My own view is that they had placed and spent the \$267,000.00 for aerial wire; that it had been changed, removed and the amount remaining, represented the first cost of \$115,000.00 and that the removals which would cons-itute losses were taken care of in some other way, I believe, in the maintenance account.

Q. At any rate, the wire was not on hand, and for that reason you

did not allow the cost price of it?

stance from the company's books.

A. Didn't allow the cost price of it because it was not on hand. Q. Yet me say in connection with this,—this is one of the variations from the cost method which you stated in the outset?

A. This is one of the two items, in which I departed from the

actual book records.

Q. Now, just how is this amount you set up here determined? Perhaps you have stated it, but just what does this figure of \$91,-033.00 represent?

A. First, the aerial wires are two characters, and is the real aerial and the drop wires. The value of \$267,000.00 as set up on the company's books, and the first cost value of the property, of this character of property on hand that we found at the time of the inventory of \$118,000.00 included both aerials and

drops. Q. Now, in another place in this exhibit you have set up an item

of drop wires, have you not?

A. Yes. Q. Where does that appear in your exhibit?

A. That appears on page 22. Q. And what do you find to be the cost new of the drop wires? A. \$44,910.00.

Q. Which added to the \$91,033.00 would be a total of \$135,-943.00, would it not?

A. Yes. Q. Then-

A. (Interrupting.) We find the two values by taking the amounts that were disclosed by the inventory in 1918, or rather at the end of 1917, and adding the amounts which were put in place in 1918 and 1919.

Q. Yes, Now, the sum of these figures, you have in there, I believe, the sum of the aerial wires and the aerial drop wire?

A. Is \$135,943.00.

Q. Now, how much does that vary from the cost of aerial and drop wire both as set up on the books of the company?

A. It is about half.

Q. Suppose you make the calculation, if you don't mind, Mr. Lyndon, let's get it exactly.

A. In 1917 the amount carried on the company's books for

total aerial wire was-

Q. (Interrupting.) Including drop wire?

A. Yes, including drop wire, was \$267,933.00. The company's books show additions, wires, of both kinds, of \$15,579.00 since that time, which would give the total present book value, if the books had been maintained as in 1917, of \$274,512.00.

Q. And that leaves a difference of-

A. (Interrupting.) And we find that there is \$135,943.00 on hand which is a deficiency of \$138,569.00 between the value as figured by the company's market value,-at the company's own prices and that of the books, in other words, the wire on hand, or rather the cost new of the wire on hand is slightly less than half that of the amount as carried on the books.

Q. And in this set up of the value of the property you have allowed only the inventory value as carried by the company itself?

Q. That's not your figure or arbitrarily made, you adopt the compan-'s inventory and prices?

A. Up to 1917 and the actual addition sicne that time.

Q. And that's the manner in which you account for this valuation?

A. Yes.

Q. In your set up of the cost as carried on the books of the company?

A. Exactly.

Q. In other words, the company seems to have been carrying a cost value of property that it did not have on hand, on aerial wire?

A. Yes, and the reason is that aerial wires change very rapidly and particularly drop wires; they are changed and removed and there is very little salvage from them because

the life is comparatively short and-

Q. (Interrupting.) With this cost of aerial wine as carried on the books of the company, is included the cost of the aerial wire used by the Home Telephone Company which it took over?



A. It includes that as far as the book cost of the Home Telephone Company for aerial wire goes, that is, the book cost of the aerial wire taken over from the Houston Home Telephone Company is put into the additon as a portion of the amount owned by the Southwestern Telephone & Tel. Co.

Q. Well, now, Mr. Lyndon, as a physical fact in taking over a competing- Did you know anything about the location of the

Home Telephone Company's poles lines, and aerial wire?

A. In a general way. I made a report on that company in 1914. Q. Did it to any extent parallel the lines of the Southwestern

Company? A. To some extent, necessarily. They were supposed to be competing companies. I know there were certain buildings in which

the buildings were wired by both companies.

Q. Would they or not, naturally take out of use the aerial wire

when the two were combined?

A. Very probably, and I understand there is considerable of the Home Telephone Company's equipment in the way of conduits, cables, toll lines, and all the rest that now are not in use. It is expected that they will go in use, but it is my understanding that some of them are not now in use.

Q. But insofar as they parallel the other lines, they are not really

useful in the plant?

A. No, but their cost has been allowed in the set ups. 127 Q. You handle the drop wire in the same method that you did the other aerial wire?

A. Yes.

Q. Now, Mr. Lyndon taking first this cost valuation of physical plants—of actual cost, can you give us the final figure on this new without depreciation?

A. New, without depreciation?

Q. Yes, sir. You have a summary of that, have you not?

A. Yes. \$3,663,432.00.

The Master: Give me those figures again, please.

A. \$3,663,432.00.

(By Mr. Howard:)

Q. Now, that as I understand you, is the actual cost of this property, as carried on the books of the company?

Mr. D. A. Frank: Ask the man the question. Don't tell him and testify yourself as you have all through the case.

(By Mr. Howard:)

Q. Mr. Lyndon, I will see whether my understanding of this matter is correct or not, that this figure that you have just given The Master, \$3,663,432.00 is the actual cost of the physical plant property of this company, except as to the item of aerial wire, wherein you have reduced in some 100,000 and odd dollars, and excepting also the acquisition of the Home Telephone Company, and that as to the Home Telephone Company it does include the actual cost of the physical property used in the plant?

A. That is true, with the exception of one other item, which is land. The land is taken at the value as of 1914, and as then valued, and which I understand was in excess

of the cost.

Q. Then, it, with the qualification as to aerial wire and as to the question of the Home Telephone Company is in excess of the cost

A. By whatever the land is in excess.

Q. By whatever amount that value of land as here set out exceeds the costs of the land?

Mr. Howard: We introduce that in evidence as Lyndon's exhibit No. 5.

(The document referred to was thereupon received in evidence marked "Lyndon Exhibit No. 5," and is filed herewith.)

Q. Mr. Lyndon, I have introduced in evidence, this paper, as Exhibit No. 5, this paper styled "Adjusted Valuation of Houston Home Telephone Company's property." I take it from this, that you have undertaken to make some adjustment and to account and properly carry into capital account the portion of this property that you deem should be carried into capital account?

A. Yes. Q. Will you state to the Court, just how you handled that subject,

Mr. Lyndon?

A. The records show that the Southwestern Telegraph & Telephone Company paid \$359,740.00 in cash, and assumed a one million dollar bonded indebtedness of the Houston Home Telephone Company. If this bonded indebtedness was taken at its fact value and discharged at its face value, it would make a total pur-

chase price of \$1,359,740.00. Now, subsequent to the pur-129 chase of this property, the real estate, central station equipment, and substation equipment, were all sold by the Southwestern Telegraph & Telephone Company. The company retained the pole lines, the aerial wires, the aerial cables, underground conduits and cables, office furniture and fixtures, although I understand that they stored the office furniture and fixtures, but I do not know, teams and vehicles, tools and miscellaneous supplies. Obviously, only those things which the company has attached and made use of, either real or titular, that they took over from the Houston Home Telephone Company, can be added to the capital account. There was nothing new done, everything that they still have was in the public service. Now the sum of these so called net additions to plant, amount to \$636,161.00.

Q. Where does that appear?

A. Page 2.

What do you call the first page? Q. Page 2.

A. The first page is the heading, "Adjusted Valuation."

Q. All right.

A. Now, the sum of these so called net additions to plant plus the amount received from the sale of the other portion of the property, amounting to \$636,161,00, leaving a difference of \$723,579.00, which represented nothing, no assets, and was written up therefore, under the title of "going value." This, of course, always assume that these bonds of a million dollars were paid in actual cash by the company.

(By Mr. D. A. Frank:)

Q. You say it is written up as "going Value"?

A. That is what I understand. I think I have some of

130 your records to show it, or some statement.

Q. Never was,

A. I will give you later the basis of the statement written in, some intangible value. Now, on page 8, of this exhibit is set forth each of the items that went to make up the Houston Home Company's equipment, its cost value new as taken from the books of the Houston Home Telephone Company and the Southwestern Telegraph and Telephone Company's valuation. We find that the pole lines, its cost value new was \$66,000.00, and the Southwestern Company valued it at \$59,000.00.

(By Mr. Frank:)

Q. You mean by "cost value" the same as "Cost?"

A. Well, these values are the cost of the property to the Houston Home Telephone Company.

Q. I am just unfamiliar with the term "Cost value"; it is either

"Cost" or "Value".

A. But they are both the same thing. These utility people have attempted to separate them, but they go in double harness forever, "cost value".

Q. "Cost value". All right, go ahead.

A. In the first column is the cost new or Cost Value new, while in the second is the arbitrary valuation put on them by the S. W. T. & T. Co., at the time of its purchase. Now, all of the items which were retained in the service of the public here and have been attached to the Southwestern Telegraph & Telephone Company's property, have been put in as the actual value, and substituted for-and the sum of them is substituted for the million and some odd thousand dollars.

(By Mr. Howard:)

Q. What is the sum of them. Mr. Lyndon?

A. The sum is not given here, but each of the items is included in that "cost value" document No 2 and each one of these items are put in under the proper heading and for the year in which it was bought. You will observe that in some of those for the year 1915, there are two values shown of addition; one

is the additions which were made by the company to its own plant; the other, is the value of the additions taken over that year from the Houston Home Telephone Company, and wherever two values for 1915 are observed, why they represent the two different items. Of course, this column can easily by footed up and the amount determined; \$669,716.00; from that ought to be deducted the items of central office equipment, building and land and sub-stations. Those portions of the property were sold, and that left as a remaining amount attached to the property here, \$432,013.00. These items are as follows: Oile line, \$68,000.00; Aerial Cable \$81,738.00; Aerial wire, \$11,825.00; Underground Conduits \$122,772.00; Underground Cable, \$118,668.00.
Q. You have got that \$116 one hundred and sixteen, here.

A. Didn't I read it one hundred and sixteen?

Q. You read it One hundred and eighteen.
A. Well, that is not a very good cooy. I am in doubt now, whether it is One Hundred Sixteen or One Hundred Eighteen.

Q. How is that Mr. Lyndon?

A. I am not clear still as to whether that is One Hundred and Sixteen or One Hundred and Eighteen; it is not a very good copy.

The Master: \$116,668,00.

A. Then this total is out \$2,000.00, because I used one hundred and eighteen; so that would be \$430,013.00 and the value of 132 the property sold added to that amount makes \$669,716.00, which was the total benefit, the total tangible benefit that obtained to the company for the purchase of the Houston Home Telephone Company.

Q. \$669,000.00 and that has been included in your costs, in the

values as set up as you have detailed to me.

A. No, only the \$430,000.00 have been included because the rest was in the form of cash, which presumably the company used for some other purpose, possibly for extensions.

Q. Realized from the sale of part of this property?

A. Yes, that is the property-

Q. (Interrupting.) In other words, you have included as I understand you, all the property that this company availed itself of in the operation of this plant?

Q. What further have you to say in regard to this exhibit, Mr.

Lyndon?

A. Well, simply that the valuations of the Southwestern Telephone and Telegraph Company, do not in any case tally with the costs of the property, that was paid by the Houston Home Telephone Company. I have checked this against the figures which I obtained from the Houston Home Telephone Company, and the valuation which I made of its plant assisted by its engineers at the time, and the practical aspection of all of its figures from the books of the company, show that the records which we have in the 1914 report is very definite and very clear and it is from those figures that these in this exhibit have been taken.

Q. Mr. Lyndon, just for the record, the Home Telephone Company's properties were purchased by The Southwestern 133 Telegraph & Telephone Company after the year 1914, and after this inventory from which you computed the reproduction in 1914, was made?

A. Ues, it was purchased subsequent to that time.

Q. Now, Mr. Lyndon, I understand, there is four hundred and forty two thousand-

A. (Interrupting.) \$430,000.00.

Q. (Continuing:) \$430,000.00 in property that has been carried into this consolidated plant and the company realized in cash from the sale of the physical property, you say, some certain amount?

A. About \$267,000.00 without being accurate.

Q. About \$267,000.00?

- A. Which, of course, reduces the investment from a million three hundred and sixty odd thousand dollars.
- Q. That then amounted to three hundred and sixty some thousand dollars, I believe you said?

A. Yes.
Q. Leaving how much balance of the purchase amount or price of the Home Telephone Company properties?

A. Practically \$720,000.00.

Q. \$720,000.00 Mr. Lyndon, on that \$720,000.00, what h-s been furnished this community here in in the way of property used and useful in the telephone business and furnishing the people of this community the service, telephone service?

A. Nothing.

(By Mr. D. A. Frank:)

Q. Absolutely nothing?

A. Less than nothing. Some property that was used and useful for telephone service in this community was removed.

134 Q. That, though they say should be added to capital account and the people of this community should pay them eight per cent return upon it. I don't think they want any depreciation on that because it is already depreciated. Replacement re-

Mr. D. A. Frank (interrupting): Your own witness said it should be.

Q. (Continuing:) Mr. Lyndon, I would like to grasp in some way or other, if there is any reason on earth, why the people of this community should pay on that \$720,000.00, if they just apparently with their eyes open, and for certain purposes threw away \$720,-000.00, now what is the motive in that, can you discover that? And determine it? Tell us something about it.

Mr. D. A. Frank: I don't see the materiality of it; he has already answered the question that it is absolutely of no value whatever.

Mr. Howard: I want to find out something about it.

A. I don't know. The acquisition of that property, its removal from the service and the call for a higher rate, seemed to follow in a succession that was more than a coincidence. It may be that a value of seven hundred and odd thousand dollars is acquired by putting a possible competitor out of service. I can't see the logic of paying a million-always assuming that these bonds were paid for at a million dollars, of course, that is the assumption that I am working on.

Q. (Interrupting.) That might be a violent assumption; Mr. Frank thinks you have given a violent assumption to that.

- 135 A. I can't understand how a group of business men would pay \$1,400,000.00, for a company that cost \$726,000.00, was in debt, not even making its depreciation, what motive animated them is beyond me to even suggest.
- Mr. D. A. Frank (interrupting:) You are young vet in the telephone business.
- A. (Continuing:) I hope I will never grow to where I will pay \$1,400,000.00 for a \$700,000.00 property, and then trust to be able to unload it on a municipality.
- Mr. D. A. Frank: Nobody has tried to unload it yet, on a municipality.
- A. (Continuing:) But I can't even remotely suggest a reason for

(By Mr. Howard:)

Q. At any rate, so far as you can ascertain, and you have given this question some study, you can't see where it is serving the public in the matter of giving them telephone service?

A. No, I can't.

Q. And for that reason, you would naturally hesitate to set it up as a capital investment, upon which they would pay in an endeavor to be fair to the utility?

A. I cannot see any rational reason for admitting it as an amount

on which the public should pay a continuous return.

Q. You have not failed to set that up on account of your ever having operated a telephone company or anything of that kind, that was not your reason for failing to set that up, you have not failed to set it up trough any prejudice, or animosity, or ill feel-

ing, that you can have for this telephone company or for anybody, have you?

136

Mr. D. A. Frank: What difference does it make about his motive; his motive is not attacked.

A. Oh, no. Judge, I have not only no animosity against utili-ties, but I have done a few things for them, some of them are friendly towards me, it is simply an effort to determine the facts.

Q. It is an absolutely impersonal question with you, is it not,

Mr. Lyndon?

A. Absolutely.

Q. And you, in trying to bring some light before this Court, in arriving at a fair solution of this question as between the utility and the community, have brought your honest and best judgment to bear upon this question?

A. I have and stated the reasons for it. If they are sufficient, they

cover it; if they are not sufficient, why it cannot be helped.

Q. Well, can you put this in the same category that you referred to awhile ago, that the company had been operating here and through some misfortune and epidemic or something of that kind, they had sustained a loss, a very substantial loss in their earnings for a particular year, you would think the community was bound to kind of hold them up under a contingency of that kind?

A. Certainly, a loss sustained in fulfilling-made by public need,

should be met by the public.

Q. Have you tried to do that and appraoach this matter of \$720,-

000.00 from every angle you can thing of?

A. Yes, and not just at the present time, but the matter 137 came up over a year ago in Washington and I was then unable to see any basis for anybody in authority admitting it as a part of the capital account, and I am equally unable to see it now. You see, if they were allowed, assume that it is a private and allowable transaction, what is the limit?

138 Redirect examination.

(Questions by Mr. Howard:)

Q. Mr. Lyndon, I wish you would take this 1916 report filed with the City. First, Mr. Lyndon have you attempted to get all the reports, the annual reports filed by the Telephone Company with the City?

A. I have within the last two days; since I knew that they were

on file with the City, I have attempted to do that.

Q. You have been unable to get them all, I believe, for some reason or other?

A. Yes, the one or two, I think three, have evidently been misplaced, and another thing is, they go back only to 1913 in any case.

O. Well new Mr. Lyndon turning to the report filed for

Q. Well, now, Mr. Lyndon, turning to the report filed for

Mr. D. A. Frank: Judge, we are having that report typed that we introduced yesterday.

Mr. Howard: Well, you just set forth the totals in that little statement you had this morning?

Mr. D. A. Frank: Yes.

Mr. Howard: Well, that showed the replacement undoubtedly, but there was some other things I wanted to show.

Q. Will you turn, Mr. Lyndon, to the set-up over there for the

year 1918. Begin first with 1913.

A. 1913 report, the set-up of the property is dated January 1, 1914. The total inside the City is \$2,129,554.00; outside the City, \$346,681.00; making a total of \$2,476,236.00

for the total physical equipment of the plant; this is physical only, of course.

Q. How do the values purport to be arrived at?

A. The value of each general item is set down, but I understand

are as taken from the company's books.

Q. Have you anything on there that shows how they are set up in 1913? Well, point out to me, will you in that report where the value of these different classifications of property is set up on the reproduction theory?

A. It is not stated here on what theory it is set up.

Q. But, what I asked you is to point out to me, is it in there where it is set up on the reproduction theory?

A. No.

Mr. D. A. Frank: I don't suppose it is supposed to be set up on that basis.

Mr. Howard: Well, I will introduce the ordinance directly.

Mr. D. A. Frank: This is necessarily the book cost.

Q. What is the amount?

A. The amounts for December 31st, 1914, for total equipment, that is physical plant, is \$2,627,345.00, to which are added miscellaneous property and proportion of working capital, bringing it to about \$2,765,180.00.

Q. Where is there any reproduction set up in that?

A. No, it is simply statements of plant values. Oh, all values of the property given in this report are taken from and represent the corresponding entries on the general books of the company with the exception of miscellaneous property which value represents actual inventory as of December 31, 1914.

Q. Was there a similar statement in the 1913 report?

A. No statement.

Mr. D. A. Frank: All taken from the books though.
A. (Continuing:) Oh, it is evidently a book statement.

Q. In 1916 what is the value?

A. The values given is \$3,193,766.00 for plant value, to which are added miscellaneous property of \$73,891.00 and proportion of working capital, \$114,634.00, making a total of \$3,778,941.00 and all the values are from the books, except the miscellaneous property, which is an inventory of December 31, 1916, so that the miscellaneous property is substantially a reproduction, value, as I understand it, as of December 31, 1916.

Q. Let me see where it is. That is \$74,000.00 of three million seven hundred seventy-eight thousand dollars? You say that is reporduction?

A. Yes.

(By Mr. D. A. Frank:)

Q. About two per cent of it?

A. Yes, it is a negligible amount of it.

(By Mr. Howard:)

Q. That is in 1918. You say you are not able to get the 1917 or 1918 reports?

A. They have not been able to find them at the City Hall. Q. Take that last report, 1919?
A. This is as of December 31, 1919, which brings it to the 141 beginning of this year.

Q. There is a set-up value there, is there? A. There are two set-ups of the value. Q. Two different methods employed now?

A. With respect to the total plant, yes. The miscellaneous property values in each case seem to be actual inventories, but they are always small, it is about one and a quarter per cent of the total here, or just one per cent of the total.

(By Mr. D. A. Frank:)

Q. Well, what is the figure?

A. The plant value is \$3,211,891.00. There are interest during construction of \$8,051,00; miscellaneous property, \$41,750.00; Working Capital, \$238,818.00, the total being \$4,100,512.00.

Q. That is the book cost as they set it up?

A. That is stated, so stated there.

(By Judge Powell:)

Q. That is the first of January this year?
A. Yes, December 31st.

Judge Powell: Yes.

(By Mr. Howard:)

Q. Is that the only method adopted of setting up the value as of the year, 1919?

Mile Ward

A. No, there is a reproduction cost here. Q. What is the reproduction cost?

A. The total plant cost is \$5,687,605.00. To that are added, miscellaneous property, which is the same as in the previous state-

ment, namely, \$41,750.00. The working capital is the same as in the previous statement, \$238,818.00. Also the Cost of 142 Establishing business, \$992,881.00.

Q. That is the first time so far as the reports you have have shown where they set up anything like a million dollars Cost of Establishing business?

A. Yes, the total of these figures is \$6,961,051.00.

Mr. Howard: Now, I introduce in evidence the ordinances of the City of Houston, being Sections 995 and 996, which requires the telephone company, all telephone companies operating in the City; also Sections 996, 997, 998 and 999, requiring all telephone companies to make certain reports to the City. Mr. D. A. Frank: What is the revelancy and pertinency of it?

Mr. Howard: Why it is an ordinance passed by the City requiring the telephone companies to furnish it date upon which to form a basis of the operations of the telephone company, and of its earnings, whereby the utility is required to set up the basis of its earnings, its value, in relation to the ordinances requiring the utilities to furnish that information.

Q. Now, Mr. Lyndon, these papers that you have just mentioned, are annual reports, are they not, filed by the utility with the public Service Commissioner of the City of Houston, in compliance with the ordinance that I have just introduced?

A. Yes.

143

Q. Now, the first and the only report, so far as you have been able to find, was the annual report—so far as you have been able to find in which any claim or basis has been made to the

City for the purposes, in connection with the matter of rate or for any other purposes in which a reproduction value was claimed? Is the inventory or the annual report filed for 1919,

after this rate hearing begun?

A. That is the only one, of course, we have not 1918.

Q. I have already qualified here by saying the only ones you have been able to find.

A. Yes.

Q. You don't know about the others?

Q. In 1913, '14 and '15, there was no set-ups of the property values?

A. No. sir.

Mr. D. A. Frank: Except in the hearing of 1917, which was before the City-

Mr. J. D. Frank (interrupting): A statement was filed Decem-

ber, 1917.

Mr. Howard: Of reproduction value?

Mr. J. D. Frank: Yes.

Mr. Duls: Exhibit No. 2, filed with the City shows the value of the property, expenses and everything.

(By Mr. Howard:)

Q. I will have you examine this then, Mr. Lyndon.

A. Page 1.

Mr. J. D. Frank (interrupting): Now, this is Exhibit No. 144 2, in this case.

A. (Continuing:) Makes the following statement under the heading "Value of Property." "A careful inventory and appraisement just completed." The date being December 26, 1917.

Q. I don't care so much about your reading that, does it show

the property as set up on the reproduction basis? A. Uses.

Q. Shows the value?

A. It does.

Q. Does it also show the cost or book value?

Mr. Howard: While he is looking for that, will you gentlemen admit that this is the first annual report that you filed with the City, showing the value set up on a reproduction basis?

Mr. D. A. Frank: That is not an annual report, that is a statement for an increase in rate on December 26, 1917. What did you

want to do, stop us from setting up reproduction?

Mr. Howard: I want to show-

Mr. D. A. Frank: Well, we always make reports, Mr. Howard, on book figures.

Mr. Howard: I simply want to show that you never asserted any reproduction values.

A. I do not find any book values here.

Q. Now, Mr. Lyndon, examine the 1917 and the 1918? A. Well, they began filing these reports in 1918 with the City.

Q. I don't care anything for anything, except 1917 and 1918. Can

you find 1917 and '18 there?

A. In 1917, the plant values are set up in both ways, book cost and reproduction.

Q. 1917?A. Yes, sir.Q. Turn to 1918 and give the amounts.

A. That is for December 31, 1917, at the end of 1917.

Q. And give the amounts for the record.

A. The book value of the plant is \$3,593,123.00. To that is added Miscellaneous property of \$68,290.00, and to that is added proportion of Working Capital \$208,492.00, the total being \$3,869,915.00. The reproduction cost is given as \$4,693,416.00 for the plant value, \$68,290.00 for miscellaneous property, making a total cost of \$4,-761.706.00, but that excludes Working Capital.

(By Mr. D. A. Frank:)

Q. Does Working Capital appear on the report?

A. Working Capital appears in the statement of book values and is omitted from the statement of reproduction costs.

Q. Well, the reproduction is merely the physical plant?

A. Yes.

Q. Go ahead.

A. Now, for December 31, 1918, that is the beginning of 1919, the book value of the physical plant is \$3,596,847.00. To that is added Miscellaneous property.

Q. What have you got onto now?

A. Book value.

Q. Well, what was the reproduction value as filed in 1917, 146 did you get that in the record?

Mr. D. A. Frank: That is \$4,761,000.00, just physical property.

A. To that is added-

Q. (Interrupting:) Is the cost of establishing business included?

A. No, nor is the working capital.

Q. It is not, all right.

A. To that is added \$262,949.00, for Miscellaneous property and for Working Capital, \$214,688.00, makes the total Capital charge \$3,874,485.00. On the next succeeding page is a statement of reproduction cost in which the total plant cost including miscellaneous property, but excluding working capital is \$4,861,009.00.

Q. Four million? A. \$4,861,009.00.

Q. Mr. Lyndon, the last report we had, I believe, was filed as of the end of the year 1915, or the end of the year 1916?

A. The last one was 1919.

Q. The last ones succeeding these we have here?

A. 1918.

Q. Let's be sure of that.

Mr. D. A. Frank: That is what your notes show, Judge.

A. This is December 31, 1916.

Mr. Howard: I know that the application for a raise of rates was made in December, 1917.

Mr. J. D. Frank: That is your statement.

Mr. Howard: My statement. The application for a raise of rates, the only one so far as I have been able to find, the company has ever sought, was made first in December of the year 1917.

Mr. Powell: How long have you been City Soliciter, Judge How-

ard?

Mr. Howard: I was City Soliciter at that time.

Judge Powell: I know, but-

Mr. Howard (interrupting): I was in 1917.

Judge Powell: When did you begin?

Mr. Howard: About the middle of the year 1917.

Mr. Howard: Now, I wish to introduce at this time; what is

known as the Merger Ordinance.

Mr. Duls: That is already in. That is the Ordinance of 1915, authorizing the Merger of the Houston Home Telephone Company.

Q. Mr. Lyndon, will you take this report of 1919 and tuen to the pages where the value of the property is set up?

A. Where the value of the property is set up?

148 Judge Powell: That is page 11, I think.

A. (Continuing:) Which one Judge? There's two here.

Q. Well, I want them both, just the totals, that is all, of both methods, one is four—

A. \$4,100,512.00. Give the reproduction? \$6,961,055.00, that is, nine, six, one, naught, five, five.

Q. Mr. Lyndon, that includes more than the physical properties I believe, or portion—or proportion to, does it not?

A. Yes, the physical property is given as five million-

Mr. D. A. Frank (interrupting): \$5,687,600.00?

A. (Continuing:) A little more than that. The physical prop-

erty is given as \$5,729,355.00, the strictly physical property.

Q. Well, Mr. Lyndon, here's what I want to get definitely in the record, far more definite than the assumption you have to rely upon, you have got into the records definitely the book cost of this property?

A. Yes.

Q. At what figure? Let's get that in the record.
A. The company's book cost unadjusted, January, 1920—\$4,868,-That figure includes first complete toll equipment; second, the total loss on the Houston Home Telephone Company purchase; third, \$165,000.00 Working Capital; fourth, \$268,000.00 aerial wire; fifth, \$11,400.00 of office furniture and fixtures allocated to Houston but not in Houston; sixty, \$4,676.00 right-of-way; that book figure includes all of these items.

Q. That is the company's book figure? A. Yes. 149

Q. Now, have you adjusted that?

A. I have adjusted it.

Q. Now, what did you find as a final amount upon a proper ad-

justment of it?

A. I find that by still leaving the toll equipment in the assets, not making any deduction because of it, and deducting only \$723,-000.00 for the loss on The Houston Home purchase, which is the company's set-up, deducting \$65,000.00 working capital, leaving \$100.000.00, deducting \$132,000.00 of the aerial wire, leaving \$134,-000.00; deducting the \$11,400.00 of office furniture and fixtures not here; and deducting \$4,600.00 of right of way; the total deductions are \$936,000.00. Now, to the Company's book accounts we add \$75,000.00 as cost of establishing business. That applied to the deduction makes a total deduction of \$861,000.00. Now, deducting the \$861,000.00 from the company's book value, leaves the undepreciated value of January, 1920, \$4,007,800.00.

Q. \$4,007,800.00?

Yes, Four, naught, naught, seven, eight, naught, naught, \$4,007,800.00.

Q. That is what you have found to be the book value after making

the adjustments?

A. After making the adjustments that I have set forth here, but retaining in the assets of the company the whole toll equipment. There is no deduction for toll equipment.

Q. Let's see. Let's just go over those figures again. What

150 did you say the set-up of the company is, how much?

A. \$4,868,800.00.

Q. Now, you deduct \$700,000.00 at the same time from that and a lot of other items from that and still get four million-

A. \$4,007,000.00, Judge.

Q. \$4,007,000.00, which still includes the long distance.

A. Of the toll equipment.

(By Mr. D. A. Frank:)

Q. Toll equipment, where? A. In the City of Houston.

(By Mr. Howard:)

Q. No depreciation deducted?

A. No, no depreciation.

Q. And allowing for \$75,000.00 for cost of establishing business?

A. Yes.

Q. Working capital?

A. Yes.

Q. And everything included?

A. Yes, that is in addition to the \$4,007,800.00.

Q. That is your opinion as to the final value of this property

undepreciated?

A. Yes, Well, I want to modify that by stating that it is \$160,-000,00 in excess of what my figures for the value for undepreciated for the total assets of the company are. The difference arises in my taking the company's figure of \$723,000.00 as the loss on The Houston Home property, while in my set-up I took the actual cost of all the Houston Home property that was here as an asset and deducted that from the \$1,300,000.00 and some odd thousand, paid

for it by the existing telephone company, there is a greater

151 amount as a loss than the \$723,000.00.

Q. All right, Mr. Lyndon, so you get this figure of \$4,-007,000.00 do you?

A. Yes.
Q. The adjusted cost value undepreciated?

A. Yes.

152

PLAINTIFF'S EXHIBIT #10.

A. E. Scott, Witness.

The Southwestern Telegraph & Telephone Co.

Total Cost of Property at Houston, Texas, as Shown by the Books.

	Year.		Total at end of year.	Number of stations.
1901			\$318,367.54	2,073
1902			388,237.19	3,136
1903			487,619.07	3,933
1904			556,389.38	4,569
1905			614,023.36	5,343
1906			843,532.39	6,532
1907			908,738.95	7,933
1908			954,864.69	8,784
1909			1,108,920.59	10,630
1910			1,381,725.05	- 12,597
1911			1.820.865.10	14,913
1912			2,323,396.98	16,477
1913			2,379,308.08	20,066
1914			2,623,231.48	21,264
1915			3,554,440.97	22,139
1916			3,593,063.47	24,130
1917			3,589,166.23	25,208
1918			3,593,586.01	25,317
1919	Sept. 30)		3,774,836.84	26,693
	urniture and Fixtu		19.894.21	20,000
	nd Store Equipmer		11,637.54	
Stable	and Garage Equipment	nent	10,219.01	
Work	a Capital includin	g Supplies		
	ble Capital*		754,979.80	
	g Capital includin ble Capital* Total Cost as shown		238,818.00 754,979.80	

	-,,				,	
*Cost of	Houston	Home	Telephone	Co., Septemb	er 1915	\$1,359,740.94
Plant o	of Home (Compan	y still in s	ervice		468,145.10

9/30/1919 \$4.810.385.40

Less Salvage from Sales and Displacements	\$891,595.84 136,616.04
Amount of Intensible Cenitel	\$754,979.80

Book figures do not measure present value or even original cost.

Property Accounts were not kept by exchanges prior to 1901 but only for
the Company as a whole.

Adjusted Valuation of Houston Home Telephone Company's 153 Properties.

We have modified the Company's book costs of the Houston Home Telephone Company's property purchased by The Southwestern Telegraph & Telephone Company in 1915, for reasons and on the basis hereinafter set forth:

Purchase of Houston Home Telephone Company.

In the year 1915, The Southwestern Telegraph & Telephone Company purchased, outright, the entire property of the Houston Home Telephone Company.

The terms of purchase, as given out publicly, were as follows:

- (1) A payment of \$194,000, in cash to cover the floating indebtedness of the Houston Home Company,
 - (2) A payment of \$131,614, for deferred interest.
 - (3) A later payment of \$34,126, for interest,
- (4) The purchaser assumed the outstanding bonded indebtedness of \$1,000,000.00.

If this \$1,000,000 bonded indebtedness be paid at its full, face value, the total purchase price of the property would amount to \$1,359,740.

Subsequent to purchase of this property, the The South-154 western Telegraph & Telephone Company sold all the real estate, the entire central station equipment, and all the substation equipment. The amounts received from these sales are eredited against the total purchase price on the Company's books.

The Company has retained and added to its own system the fol-

lowing parts of the Houston Home Company's plant:

- (1) Pole Lines.
- (Subscriber's drop wires.) (2) Aerial wire.
- (3) Aerial cable.
- (4) Underground conduit.
- (5) Underground cable.
- (6) Office furniture and fixtures.
- (7) Teams and vehicles.
- (8) Tools.
- (9) Miscellaneous supplies.

Each of these items has been appraised by the purchasing company, and the value, as appraised, has been credited on the Company's books as a net addition to the plant.

The sum of these so-called net additions to plant, and the amount received for the sale of the other portions of the property before mentioned, amount to \$636,161, which is \$723,579, less than the total purchase price. This difference, The Southwestern Telegraph & Telephone Company has added to its assets, and under the title of "Going Value."

It is neither our duty, nor our purpose, to offer any criticisms of this transaction, but to point out only wherein the Company's treatment of the finances involved is not allowable to fix values for the

purpose of rate-making.

The Houston Home Telephone Company was in the service of the Houston public, and its plant had cost a certain sum of money, which amount our report of 1914 showed to be about \$725,000, cost, now, with a then net value of \$665,000, after deducting depreciation, There were additional sums allowed for Working Capital, Going Value and other Intangibles, amounting to \$132,000. As a matter of fact, the Houston Home Company's books showed that they were practically without Working Capital in the form of cash, the total cash on hand at that time being \$1,039.

The Courts, Public Service Commissions and Engineering Appraisers have all agreed that the only property which can be considered in fixing values, on which to compute rates, is

be considered in fixing values, on which to compute rates, is that which is in the service of the public, and, further, that the value of these portions is fixed by its original cost, or, in some cases, by the cost of reproduction. The fact that a property which cost a certain amount of money is, later, resold for a greater amount does not affect the value of the property for rate-making purposes. The obvious justice and common sense of this view are apparent. If it were not so, there would be nothing to prevent the formation of a number of companies, which would successively buy a property from each other at an increase in price with each transaction, and, in this way, finally get to a cost of property, which, if used for rate-making purposes, would be an impossible burden on the public.

For these reasons, the only credit allowable to The Southwestern Telegraph & Telephone Company is for those portions of the Houston Home Company's plant which it has connected with its own plant, and which are and will remain in service. Also, the prices at which these portions of the Houston Home Company's plant can be credited to the assets of the Southwestern Telegraph & Telephone Company are the original cost prices of these portions, less Depreciation,

In The Southwestern Telegraph & Telephone Company's appraisal of each of the items of the Houston Home Telephone Company's equipment, the values were based on cost, less Depreciation. In order to constantly follow our method of taking the cost, new, and giving it its actual subsequent Depreciation, we have been obliged to use greater amounts for the cost value of the useful portions of the Houston Home Telephone Company than the Southwestern Telegraph & Telephone Company's books show. Our own prices are the original cost prices without any Depreciation, shown as net additions to The Southwestern Telegraph & Telephone Company's plant in 1916. These cost values are afterwards de-

preciated on the basis of their actual age and the rates of Depreciation which we have adopted, in order to determine their present values. This being the method pursued with respect to all the property belonging to The Southwestern Telegraph & Telephone Company, the equipment taken over from the Houston Home Telephone Company, and added to The Southwestern Company's plant, must be treated in the same manner. Otherwise, the results would be inconsistent and erroneous.

Those parts of the plant which have been sold, we have considered as never having been received by, or entered into the assets of,

the Company. So far as the public is concerned, these portions, previously existent, have been carried away and, therefore, have disappeared from any consideration at all. Whether The Southwestern Telegraph & Telephone Company made a profit, or experienced a net loss on the sale, is a matter that does not even remotely concern the public. The purchase of the Houston Home Telephone Company was a business deal which had nothing to do with providing telephone service, nor adding to it, and the only way in which this purchase can possibly affect the physical value of the property of The Southwestern Telegraph & Telephone Company is by the addition of those parts actually kept in Houston and still in use.

A copy of a letter from the Dallas office of The Southwestern Telegraph & Telephone Company to the Division Plant Superintendent in Houston, in which is shown the purchasers' valuation of each item of the Houston Home Company's equipment, is given on the succeeding page.

159

Inventories.

Houston Home Telephone Company.

Dallas, Texas, Dec. 31, 1915.

Division Plant Superintendent, Houston, Texas:

In connection with the purchase of the Houston Home Telephone property, the following values were placed on the General Books for the month of September, and you will please originate a Work Sheet, Form SW-1077-E, using one column for each account. The charges are as follows:

122-01	Material and Supplies	25,229.85
211	Land	51,660.00
212	Building	53,623.37
221	Central Office Telephone Equipment	156,530.31
231	Station apparatus	1,860.02
232	Station Installations	174.28
234	Private Branch Exchange	659.79
235	Booths and Special Fittings	125.67
241	Exchange Pole Lines	59,118.56
242	Exchange Aerial Cable	84,604.41

244-14 242-24 245-15 245-25 245-35	Exchange Underground Conduit—Main Exchange Underground Conduit—Subsidiary Exchange Underground Cable—Main Exchange Underground Cable—Subsidiary House Cable	155,173.70 23,226.20 143,848.59 14,165.09 3,119.73
160		
251-11 251-21 252 261 264-01 264-03 265	Toll Poles Toll Cross Arms Toll Underground Cable Office Furniture & Fixtures Terms Other Equipment General Tools and Implements.	2,537.84 441.69 7,329.90 1,840.15 535.00 1,514.02 4,584.13
-	Cotal	795,902.30

After placing the above amounts on the Work Sheets you will post same to Form SN-34 in the month of September, interlining these amounts with the amounts already posted from your regular reports and not erasing old amounts to combine the two.

The net result of this purchase by The Southwestern Telegraph & Telephone Company is that, after allowing more than full value for the physical property, there is still an unaccounted-for sum of \$723,579. This amount The Southwestern Company has written up as an "Intangible Value."

That an "Intangible Value" has accrued by putting a competitor out of business, prior to asking for a raise in rates, is probable from a general financial and business standpoint, but no such sum of money can be considered as part of the Capital Account on which

the subscribers must pay an annual return.

The following table shows each item now remaining in Houston as a useful portion of The Southwestern Company's plant, the valuation placed on it by the Company and the cost, new, valuation which we have given them. Our own figures are used in the computations of value which occur later in this report.

Table of Houston Home Company's Equipment in Actual 162 Service.

Item.	Cost value new.	S. W. T. & T. Co. valua- tion.
Pole Line	\$68,000	59,118.56
Aerial Cable	81,738 #	84,604.29 *11,825.41
Underground Conduit	122,772	178,399.90
Underground Cable	116,668 #	181,133.41 2,819.76
Central Office Equipment	a a	158,530.31 107,283.37
Total plant		
Furniture and Fixtures		#
Tools and Store Equipment Stable and Garage		#

- 163 Testimony in Support of Assignment of Error No. 2, Relating to the Division of Long Distance Tolls.
- 164 H. B. Copes, a witness for plaintiff, who was first duly sworn, testified as follows:

Direct examination.

Questions by Mr. Duls:

Q. What is your name?

A. H. B. Copes.
Q. Where do you live, Mr. Copes?
A. Dallas, Texas.
Q. What business are you in? A. I am in the telephone business.

Q. With what company?

A. Southwestern Telegraph and Telephone Company. Q. What position do you hold with that company?

A. I am Superintendent of the Contract Department for the State of Texas.

Q. Superintendent of the Contract Department for the State of

A. For the State of Texas, yes, sir.

^{*}This item is not included in letter fixing book values. Included in S. W. Co. book values.

ISee "Aerial Wires."

eThis item is not in our cost values new.

Q. In a general way, what are the duties of your position?

A. Well, the larger portion of my duties are handling the arrangements or traffic agreements and relations with the connecting companies in Texas, that connect with our system. 165

Q. By traffic arrangements, you mean arrangements in-volving the connection of the lines of the company with the independent lines?

A. Yes, sir, interchange of the telephone business between these

companies.

Q. Do the lines of the Southwestern Company connect with any of the independent companies?

A. Yes, sir.

Q. About how many independent companies are there that con-

nect with the Southwestern Company?

A. Why, there are something like between five and six hundred companies; Mr. Scott meant exchanges a while ago, some of these companies have more than one exchange, but the companies, the number of companies is between five and six hundred.

Q. Well, do you mean that the Southwestern Company connects

with the five hundred or six hundred independent companies?

A. Yes, sir. When I say "companies," I mean companies and

individuals—some of these lines are operated by individuals.

Q. Yes, Well, now, Mr. Copes, into whose boards, say, the 166 lines of the Southwestern company go, does the Southwestern

company connect with?

A. Why, I haven't figured that out exactly by companies. We go into 362 exchanges. Now, some of those exchanges are owned by the same company-for instance, the Gulf State Telephone Company, that is a large concern, they have eight or ten exchanges that we go into.

Well, approximately how many exchanges does the

Southwestern connect with?

A. Well, I can tell you exactly, 362—that is, that we go directly through the toll board, where they handle our business just the same os the Houston exchange does our toll line.

Q. Those are exchanges which the Southwestern company does

not own?

A. Yes, sir.

Q. In which it has no interest and over which it has no control?

A. No, sir.

Q. Several months ago we asked you to go into the matter and find out accurately just how this 25% charge we allow the Houston exchange compares with the amounts paid by other companies among themselves for the same services. Did you make in-

vestigations along that line? 167

A. Yes, sir.

Q. Well, how did you select the exchanges?

A. Why, I took-I started at the top, with the largest exchange, and went on down the line as to size, down.

Q. Well, did you go around-A. That is, as to exchanges.

You did not go around and just select the exchanges that you wanted to select and used those in your study?

A. No, sir, I used no-didn't pick them at all. Q. How long were you in getting the facts? A. About five—between four and five weeks

Q. Does that include getting the facts and compiling your figures?

A. Yes, it was about six weeks altogether.

Q. Well, did you have any trouble, Mr. Copes, in getting into

the books of these independent companies?

A. No, I didn't have any trouble at all; I had made this study before for the Houston company and the San Antonio and Ft. Worth companies, and they knew-I did the first time have a little trouble in convincing them what my figures were for, these little

fellows sometimes don't like to tell all their business-but

this time I didn't have any trouble at all 168

Q. In other words, they were willing to trust you so far as getting information about that business was concerned?

A. Yes, sir.

The Master: Have you had any personal transactions with our mutual friend, Mr. Bill Medley, at Conroe?

A. Not personally. I got along very well with him. Q. For what time did you pick out the figures?

A. For the month of September 1919 because it was the last month prior to the date of making the study, and I thought the record would probably be fresher and in better shape.

Q. Are you familiar, Mr. Copes, with the credit that our toll line

system allows to the exchange here in Houston in setting up a state-

ment of revenues and expenses?

A. Yes, sir, I am.
Q. What do we ordinarily allow our exchange business?
A. Twenty-five per cent on outward business.

A. Twenty-live per cent on outward business.

Q. That is, in all exchanges which this company owns?

A. Yes, sir.

Q. Now, why do you allow a per cent only on outward business?

A. Why, because we don't check the exchanges, we don't 169 check the inward business.

Q. Why don't you check the inward business?

A. Because it takes up the time of the operators, and by not checking it, and making our payment to the exchange on the outward business, we get a larger use of our toll lines and can furnish a better service to the public.

Q. What do you mean by "checking?"

A. I mean making a ticket on call. By that method we avoid making a ticket on an in call.

Q. It saves bookkeeping, in other words?

A. It saves bookkeeping, but the principal point is it saves the operators' time in actually handling the calls.

Q. By that method, just for the information of His Honor, explain how a call would be put through from Houston to Dallas?

A. Would be put at this end?

Q. Would be put at this end, outward call, yes, sir.

A. Well, the call would be placed with the recording operator. who would make the ticket on that call, the ticket would be passed to the line operator here in Houston, who would put up the connection operator in Dallas, or line operator without involving the serv-

ice of another operator, except the local exchange operator terminate that call at the Dallas subscriber's station without a 170

Q. That is, the operator in Dallas does not make any record of the call?

A. No record whatever.

Q. A record is made here in the Houston office?

A. Yes, sir. Q. Now, in dealing with other exchanges, do we have the same arrangement-I mean both with independent exchanges,-the arrangement the Southwestern Company has with independent exchanges?

A. Why, we have-in order to enlarge that operating method we have arranged with, well, I would say with the office managers of practically 75% of our connecting exchanges to operate on that basis.

Q. What basis? A. What we call 103 Operating basis, or method, or single ticket method of operation.

Q. Well, I want to know primarily what per cent do you allow

these independent people? A. Well, our contracts with them are on the basis of 121/2 % on

out business and 12½ per cent on in business. Q. Did you ever make any effort to get you to pay them 25% on

outward business.

171 A. Well, we can't—it resolves itself down to 25%, but the way we do it is this: It is rather unfair to a very small exchange to put it on the 25% basis straight, because of the fact that, for the same reason that the outward business of the large exchanges, the outward business is greater than the inward, the inward business in a small exchange is necessarily greater than the outward, and if we paid the toll commission on outward business without recognizing that fact, we would be doing an injustice to the connecting man. Now, we get around that by taking the actual commissions paid for the last period, we will say six months, or twelve months, that the inward business was kept and apply that amount of money on both the in and out against the outward business; and this arrangement I say I have made with practically 75% of our connecting companies.

Q. Well, now, Mr. Copes, you have testified that the Southwestern allows its own exchanges 25% of the outward revenue and indepen-

dent companies 121/2 and 121/2?

A. Yes, sir.
Q. What is this allowance for, what is it made for? A. It is for originating business, terminating the business, collecting for the originating business and performing service and operating for both the in and out business. Now, I might state right here, in order to clarify the thing, that in other bus-iness with our connecting exchanges, we have arrangements 172

by which we pay them for switching through business on approximately the same basis as we allow our own exchanges for the same service.

 Q. Well, that is switching charge?
 A. Yes, that is entirely separate from the originating and terminating basis.

Q. All right. Now, in getting up your figures, did you find out what was being paid for every call handled by those exchanges?

A. Yes, I had to knowing that numbers of these independent companies had different percentage rates or commissions, I had to estimate on the unit, which, of course, could not be anything except the individual toll call.

Q. In your judgment that is the best basis on which to make a study of this question?

A. It is the only basis you can make it on, there is bound to be a

unit, and the only unit in the toll business is the call.

Q. Have you any figures showing what was paid the Houston exchange for services rendered to long distance lines? 173 A. Yes, sir. (Handing counsel a paper.)

Mr. Duls: We offer that and call it Exhibit No. 47.

(Plaintiff's exhibit No. 47 was received in evidence and marked Plaintiff's Exhibit No. 47, Witness Copes, and is filed herewith.)

Q. Mr. Copes, what is the amount of total outgoing toll business of Houston for the month of September last year?

A. It was \$36,281.00.

Q. And 25% of that is what?

A. \$9,070.25.

Q. That is what the local exchange here was allowed for handling the toll business?

A. Yes, sir, for the month of September?

Q. Now, what was the total number of outward calls during that month?

A. 33,846.

Q. And the number of inward calls?

A. 26,917.

Q. Why is there a difference in that, why are there more outward calls than there are inward calls in an exchange like Houston? 174 A. That is always true of the larger centers.

Q. Well, explain that a little bit so we will understand

that.

A. Well, it is due almost entirely to the fact that the larger business concerns, wholesale houses, distributing concerns, have their offices in the larger cities, and their traveling men and their customers, in placing telephone calls, place them collect, which makes it an outward call at Houston.

Q. In other words, Mr. Copes, if a man came down here, say from Conroe, and then called up his family in Conroe, that would be an

outward call?

A. Out of Houston, yes, sir.

Q. Yes. Suppose a man in Conroe called up a man in Houston and asked that the call be reversed?

A. It would be an outward call in Houston.

Q. Why?

A. Because the money would be collected in Houston.

Q. Now, you are allowing Houston 25% of the outward toll revenue?

A. Yes, sir, that is correct.

Q. Although Houston collects more than half-I mean although Houston has a larger number of outgoing calls than it has inward calls?

A. Yes, sir, very largely more. 175

Q. Is that allowance of 25% favorable or unfavorable to

an exchange like Houston?

A. It is very favorable to any large exchange—not only Houston, but to any large exchange.

Q. It is at least better than 121/2 out and 121/2 in?

A. Oh, yes, it is much better.

Q. Now, how much does the Houston exchange receive per call for handling the long distance business?

A. The month of September, 1919—the month I made the study—

they received 14.9 cents per call.

Q. That is both ingoing and outgoing calls?
A. That is the total calls, divided by the revenue.
Q. The total number of calls?
A. Yes, sir.
Q. Now, Mr. Copes, you said you made a study of all the Southwestern Company's toll lines connected with independent exchanges?

A. Yes, sir.
Q. Have you an exhibit connected with that study?

A. Yes, sir. (Handing counsel a paper.)

Mr. Duls: We will offer that as Exhibit No. 48.

(The paper was thereupon received in evidence, marked Plaintiff's Exhibit No. 48, Witness Copes," and is filed here-176 with.)

Q. Do these independent exchanges that connect with the toll lines of the Southwestern Company render the same service to the Southwestern long distance lines that the Houston exchange renders?

A. Just exactly.

Q. Just exactly the same service?

A. Yes, sir.

Q. Now, this exhibit takes—or makes a study of the situation, where the long distance lines of this company go into the switchboard of local independent exchanges?

A. Yes, sir.
Q. How many exchanges is the Southwestern Company connected with, according to this exhibit?

A. 362 in the month of September. That number varies from time to time, of course, as exchanges are established or abandoned.

Q. What were the total number of outward calls in those ex-

changes?

A. The total calls as handled by those people in September 1919 was 286,219 dollars.

Q. No-

177 A. I mean figures, 286,219 calls, with a revenue of \$133,-

Q. Well, now, what were the number of inward calls?

A. The number of inward calls on that exhibit was estimated, as I note at the bottom, as we don't-the inward calls were not checked at probably seventy-five per cent of these exchanges, but I base the number of inward calls on the actual calls shown in the study that I made in January 1918—the same study—I put the same percentage of in and outward business, which would not vary one per cent now.

Q. Well, there seems to be more inward calls than outward calls

with those small exchanges?

- A. Yes, sir, I explained that a while ago; that is necessarily so. Q. Well, did you estimate the total revenue—I notice there is a blank there?
- A. I did not mean to do that, as our commission's based on the outward business.

Q. This exhibit covers the same month of September, 1919?

A. Yes, sir.
Q. What did you find as the average amount per call paid by the Southwestern Company to these local exchanges?

A. It is 4.13 cents per call for that month.

178 Q. In other words, the Southwestern Company pays the independent exchanges with which it connects 4.13 cents per call, and pays Houston 14.9 cents per call?

A. Yes, sir, that is correct.
Q. Did you examine any other toll systems in the state besides the Southwestern Toll System?

A. Yes, sir, I examined the four largest companies outside of the Southwestern Company.

Q. What are those four largest companies?

A. The West Texas Telephone Company, with headquarters at Brownwood; the Gulf States Company with headquarters at Tyler-

Mr. D. A. Frank: That is Judge Lynden's company.

A. Yes, sir. The San Angelo Telephone Company, with headquarters at San Angelo; and the Texas Long Distance Telephone Company with headquarters at Waco.

Q. Have you an exhibit making the study of those companies?

A. Yes, sir. (Handing paper to counsel.)

Mr. Duls: We offer that as "Plaintiff's Exhibit No. 49."

(The paper was thereupon received in evidence marked "Plaintiff's Exhibit No. 49, Witness Copes," and is filed herewith.)

Q. Mr. Copes, in your Exhibit No. 48? 179

A. Which one is that?

Q. That is the second one.

A. The second one?

Q. Yes, sir. You showed that we are paying the independent exchanges 14.13 cents per call.

A. Yes, sir.

Q. And in the previous exhibit you show that we are allowing Houston 14.9 cents per call?

A. Yes, sir, that is correct.

Q. From that it doesn't seem that the Southwestern Company is overreaching the Fort Worth Exchange, does it? I mean the

Houston Exchange?

A. No, not necessarily. The large exchanges are entitled to a greater earning per call on the toll because of the larger proportion of long haul business, that is what makes the difference in the commission earnings per call.

Q. Now, are there any limitations upon the amount that we pay the independent companies for handling our long toll business?

A. Yes, sir, in our contracts that we make with the independent companies, we limit the commission paid to not to exceeding 10 cents per call.

Q. What do you mean by that?

180 A. Well, I mean that on any one call we won't pay to exceed 10 cents on any one call.

Q. There is no such limitation as that on the amount that we will pay or allow the Houston exchange?

A. No, sir, it is figured straight. Q. Now, we were talking about Exhibit No. 49?

A. What is that, my number 3, isn't it?

Q. Yes, your number 3. In this Exhibit, have you included any exchanges which are owned or controlled by these four independent toll line systems which we have in the first column?

A. No, sir, I haven't. Q. You have included then only exchanges which are independent of those toll lines?

A. Yes, sir, entirely so.

Q. So that this exhibit shows what are paid by independent people dealing among themselves?

A. Yes, sir.
Q. And at arms length?

A. Yes, sir. These exchanges, I might say, bear the same relation to these four poll line companies that the 362 exchanges that I have shown on the other, bears to the Southwestern toll lines.

Q. And these exchanges perform the same services for these long distance lines as Houston does for the-

181 A. Yes, sir, absolutely the same.

Q. In the first column you have the number of exchanges connected with these long distance lines?

A. Yes, sir.

Q. How many exchanges are connected with the West Texas Telephone Company?

A. 36.

Q. I notice you have Brownwood after the West Texas Telephone Company?

A. That is the headquarters of the company. I mentioned that

when I named the companies awhile ago.

Q. Then you have made this study on the same basis that you have the study of the Southwestern's payments to the independent exchanges?

A. Yes, sir.

Q. What did you find that the West Texas Telephone Company pays per call to the independent exchanges connected with these long distance lines?

A. 3.7 cents per call.

Q. What do you find that the Gulf States Company pays? A. 2.8 cents.

Q. The San Angelo Company?

A. 5.6 per call. Q. The Texas Long Distance Telephone Co.?

A. 5.1 cents per cal!.

182 Q. Now, what is the average payment by these four largest independent telephone companies to the independent exchanges which connect with them to handle their long distance business?

A. 4.2 cents per call.

Q. That figure compares with the 4.1 cents per call paid by the Southwestern to its independent exchanges?

A. Yes, sir.

Q. And with the 14.9 cents per call paid the Houston Exchange by the Southwestern-

A. (Interrupting.) Yes, sir.

Q. Toll System. Are there any number of independent exchanges in the State?

A. Yes, sir, over 700.

Q. Over 700 independent exchanges?

A. Yes, sir. Q. Have you made a study with reference to these independent exchanges?

A. Well, not all of them. I made a study on 8 of the largest independent exchanges, starting at the top and going on down. based on the size of the City.

Q. Based on the population?

A. The population of the City in which the exchanges are operated, yes.

Q. How many of them did you take? 183 A. I took the 8 largest.

Q. You have the exhibit on that?

A. Yes, sir.

Mr. Duls: We will introduce that or offer that as Plaintiff's Exhibit No. 50.

(The paper was thereupon received in evidence marked "Plaintiff's Exhibit No. 50," and is filed herewith.)

A. (continued:) Now, you want No. 4 first?

Q. Yes, I want the one that is independent Southwestern business?

A. Strictly independent business.

Q. And all of this is your work, Mr. Copes?

A. Yes, sir, I got the records off, right off of the original records of all these companies personally.

Q. I believe you said it took you something like five or six weeks

to get these computations?

A. Yes, sir. Q. Now, what does this Exhibit show?

A. This Exhibit shows the per call commission earnings by the eight largest independent exchanges in Texas for handling long distance business other than long distance business of the

184 Southwestern Telegraph & Telephone Co.

Q. Well, do I understand that this is the reverse of the

exhibits that you have previously introduced?

A. Yes, sir, the previous exhibit showed the toll line companies payments to the various exchanges and the Southwestern Company's payments to the various exchanges with which it connects but does This exhibit shows the earnings of the exchange for pernot own. forming and operating and collecting services for the toll line companies connected with it.

Q. What they receive on an average?

A. Yes, sir.

Mr. Duls: Your Honor, I want to state that if there are any questions that you want to ask as we go along, that Mr. Copes will welcome the interruption, and anything that we can explain, we want to explain.

Q. Suppose we take the Denton exchange there. Now, that, as I understand from this exhibit, has four independent lines which go into the switch-board at Denton?

A. Yes, sir, that is correct.

Q. And then you have found the total outward business and the total inward business and shown the total amount of commissions received in the next to last column and then the amount received per call?

185 A. Yes, sir.

Q. What did the Denton Exchange receive per call?

A. 3.1 cents per call.

Q. And what did you find as the average amount received by these 8 independent, largest independent exchanges from independent companies, that is, companies other than the Southwestern Company, for handling their long distance business?

A. 7.1 cents per call. That is the average of all of them.

Q. Well, then, this exhibit shows that there is not a single independent exchange in the State of Texas, or rather it shows that no one of these largest independent exchanges receive as much as the Houston Exchange for handling that business?

A. Yes, sir, that is correct, by nearly 4 cents a call.

Q. By nearly 4 cents?

A. Yes. Q. Now, this exhibit excludes the business of the Southwestern Toll System. Have you an exhibit which includes that business?

A. Yes, sir, I have prepared another exhibit on these same towns, I have prepared another exhibit which includes all business handled by them, including the Southwestern.

Mr. Duls: We will offer that as Plaintiff's Exhibit No. 186

(The paper was thereupon received in evidence, marked "Plaintiff's Exhibit No. 51," and is filed herewith.)

Q. Now, including the business of the Southwestern Company, what do you find is the average amount per call received by these 8 large independent exchanges?

A. 4.4 cents per call.

Q. That compares with what figure allowed, excluding the com-

pany's business'

A. That don't compare exactly, Mr. Duls, with any of the rest of them, for the reason that at Dallas, Waco, Temple, Sherman and Denton, the Southwestern Company operates its own toll, they have their own operators, and the local exchange simply does our billing That is the reason that per call earning is and collecting for us. low. I simply prepared that to show what it would mean, including all business handled by these companies.

Q. That is including all the long distance business that goes into

these exchanges?

A. That goes into these exchanges.

Q. And is this based on the outward and inward business also? 187

 A. Yes, sir, that is including the per call earnings.
 Q. Now, have you made a study of the amount received by the five largest independent exchanges connected with our toll lines?

A. The five largest that handle ours directly, doing all the operating, collecting, bookeeping, etc., just the same as the Houston Exchange does for the Southwestern Company's toll line.

Q. Well, let's have that Exhibit, Mr. Copes.

Mr. Duls: Now, we offer this in evidence as plaintiff's Exhibit No. 52.

(The paper was thereupon received in evidence, marked, "Plaintiff's Exhibit No. 52," and is filed herewith.)

A. Now, I might explain that these figures here are absolutely

comparable with the Houston figures.

Q. In other words, these four exchanges, independent exchanges which perform the same services for the Southwestern Lines as this Houston Exchange performs for the Southwestern lines?

A. Yes, sir, covering Southwestern business only.
Q. Now, take the Texarkana Exchange and explain just how you

arrived at the amount which it received per call?

A. Well, I arrived at it just exactly the same way, Mr. Duls, that I did all the rest of them. The only difference 188 in this Exhibit is it includes only Southwestern business. The previous Exhibit included Southwestern and independent busi-

Q. Well, what amount did you find the Texarkana Exchange received from the Southwestern Company for handling the South-

western's?

A. Eight cents per call.

Q. What does Greenville receive?

A. 5.2 cents per call.

Q. Brownwood?

A. 11.9 cents.

Q. Bryan. A. 10.8 cents.

Q. And Gonzales?

A. 7 cents a call; an average of 7.3 cents per call for the five exchanges.

Q. Now, you say that figure is absolutely comparable with the 14.9 cents which Houston receives for handling the same business?

A. Yes, sir, it is.

Q. Now, have you an exhibit which summarizes in a general way what you have been testifying to?

A. Yes, you want to introduce that?

Mr. Duls: Yes, we'll introduce that as Plaintiff's Exhibit 189 No. 53.

(The paper was thereupon received in evidence, marked, "Plaintiff's Exhibit No. 53," and is filed herewith.)

Q. If you have figured an average payment per call on these other exhibits, there will be some cases where the payment will be above that average and some cases where it will be below it?

A. Oh, yes, necessarily so.

Q. Now, I wish you would explain just what this exhibit shows

in a general way, and let us follow you on that, Mr. Copes?

A. This exhibit is intended to show in a short, clear way, first, the highest per call payments by different companies under different conditions.

Q. Both independent and the Southwestern?

A. And the Southwestern, yes, sir. Now, this exhibit shows that the highest amount paid per call in the State of Texas, by the Southwestern Telegraph & Telephone Company, is to the Brownwood, Texas, Exchange, 11.9 cents per call.

Q. Well, now, is that figure comparable to the payment that is made here at Houston?

A. Yes, sir.
Q. Well, then, you mean, excluding Houston, this is the highest payment that the Southwestern Company makes per 190 call?

A. I said, to an Exchange not owned by the Southwestern.

is what I meant.

Q. All right, to an exchange not owned by the Southwestern?

A. Yes. Q. What does the Texas Company pay?

A. You see, I haven't got any figures on these independent companies, except to exchanges not owned by them. All these figures are on that basis, Giddings, 9.5 cents per call. The West Texas Company at Mercury, Texas, have 9.7 cents per call. The Gulf States Telephone Co. at Henderson, Texas, 4.1 cents per call. The San Angelo Telephone Company at Ozona, Texas, 8 cents per call.

Q. Now, what is the highest average call received by any large independent exchange from independent local exchange systems?

A. You mean from long distance independent systems? Q. Yes. A. Dallas, Texas, 10.1 cents per call.

Q. Does your Exhibits show that the average per call made by the Southwestern to independent exchanges is 4.13 cents? 191

A. Yes, sir, one of my exhibits.

Q. Well, what does that compare with, Mr. Copes?

A. That compares with Houston. Those exchanges perform exactly the same service to earn that amount as Houston performs to earn 14.9 cents.

Q. And it compares also with the payment made by the four large independent toll line companies to exchanges not owned by them?

A. Yes, sir.

Q. How much was that amount?

A. 14.9 cents.
Q. Well, the amount paid by the four largest independent companies to the exchanges not owned by them?

A. Yes, 4.2 is right.

Q. Well, do I understand you to testify that the highest received is 14?

A. Yes, sir, that is correct.

Q. And that compares with the 14.9 cents which is allowed Houston?

A. Yes, sir.

Q. When the Government took control of the properties, there was some change made in the arrangement which the company had with the independent companies, I believe. What was that change?

A. Why that change as far as the local exchanges that we 192 connected with, didn't affect it. We were already on the same basis as was fixed by the-I suppose the Board at Washington fixed it, but we all changed our arrangements from a switching charge basis where lines went into our exchanges to an originating toll basis. That applied on other toll business and also to business originating in our exchanges, going over connecting lines, that was changed to 25% on the outward business and made uniform for the whole country.

Q. You changed it to the same thing that existed here in Hous-

ton?

A. Yes, sir. Q. Now, did the Texas Telephone Company in 1919, have a dif-

ferent arrangement?

A. Yes, sir, they had many different arrangements, and I found in making this last study that they had changed to a uniform basis. I have a detailed list here of all their exchanges, which I just made for my own information, but they changed to the same proposition that we were, they made it 121/2 and 121/2 per cent, and pro rated it on a basis of an in and out basis, just the same as we do.

Q. In other words, that company thought that was a fair way to

handle that proposition

193

A. Yes, sir, they evidently did. Q. Did the San Angelo Telephone Company change theirs to the same basis?

A. Yes, sir, they put theirs all on a 25% basis. Q. Now, Mr. Copes, this Exhibit No. 53,-

A. That's my number what?
Q. Your number five.
A. The last one is it?
Q. Yes, your last exhibit. Just to sum the thing up, does that exhibit show that the Southwestern Company pays the Houston Exchange three and a half times as much as it pays independent exchanges for doing the same thing that the Houston Exchange does?

A. Yes, sir.

Mr. Duls: I think that is all.

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Copes, a man familiar with this long telephone operation, you wouldn't think that a local exchange should pay more, or you would think that a local exchange should receive for handling these telephone calls at least what it cost to handle them, would you not?

194

A. Yes, sir, without any question. Q. Now, did I understand you to say awhile ago that where you deal with independent companies, make this arrangement for handling your long distance tolls, I thought I understood you to say that you allowed them 12½% on outgoing calls and 12½% on incoming calls, instead of the 25% on merely all outgoing calls?

A. I said, Mr. Howard, that our contracts with them provided for that percentage but in order to work it out in a practical way, we had in order to put into effect what I explained awhile ago, this single ticket method of operation and in order to improve the toll service, which is the only reason we have for doing that, to decrease the bookkeeping, that we had figured out a sort of composite percentage based on the actual in and out business and taking 121/2 % on that actual in business and actual out business, and applied that sum against the outward business, which may mean a 22% or it may mean 26%, or 27% or 28%. Now, for instance, you take a town like Bryan; they have the State University there, the A. & M. College, and you find in that town that the inward business is a great deal larger than the outward business, because people put in calls for their children there and pay for it back home, and Brownwood is a town where the outward business is considerably

195 greater, and the inward business is greater. You will find that true whenever an exchange gets below the average sized exchange, that is generally true, you will find the inward business

exceeds the outward.

Q. Did I understand you to say ahwile ago that a collect message was treated as-for instance, if I was to send a message from here to San Antonio collect, would that be treated as an incoming message?

A. That would be-a message is received as outward message

business at the point at which it is paid.

Q. At which it is paid? A. Yes, sir, that is correct.

Q. That is what I understood you to say. And I suppose that, particularly in a City like this, there would be about as many collect calls sent in here as there would be sent out?

A. Well, I will say that I believe that Houston, probably Houston-It differs, the excess outward calls over inward calls in Houston would be as great as it is at any point in Texas, I think.

Q. What? A. The excess of outward calls over inward would be as great, or

greater than at any point in Texas.

Q. What I don't understand, is this last column here?

A. Which exhibit have you there?

Q. No. 53. If you deal with these independent exchanges out at these little towns or in large towns for that matter and you pay them on a basis of 121/2 cents for outgoing calls and 121/2 cents for incoming calls, you will approximate, by that method, I understand, about 25 cents each?

A. Yes, sir, that is right.

Mr. Duls: You mean-

Q. For instance, this 11.9 cents, and all the way down. would represent practically 25% of the call-?

A. No, it won't in all cases, some of these people are not on a

25% basis; all of those companies are not.

Q. Well, either on a 25% basis or practically on a 25% basis? A. I cannot give you the exact figures here. The West Texas Company is on practically that basis. The Gulf States Company over here in East Texas, they have a great many different, some of them 25% on an average, some 12½ and 12½ and here's one 20 and 20 and here's one 15 and 10. They have no standard. And you will notice their average is very low. They have got a lot of little bits of exchanges over there in East Texas, that practically all of their business is within a radius of 25 to 30 miles.

Q. Well then, if Houston gets 14 cents instead of that, that is due to the fact, is it not, that Houston is a large City

and has the advantage locally of originating long calls?

A. Yes, sir, that is true.

Q. And it costs Houston more to handle calls too, does it not,

than it does little exchanges?

A. It costs more to handle a long haul call, Mr. Howard, than it does a short haul call for the reason that it requires more of the operator's time to follow up that call and build up a circuit, and it requires more of her time to handle it.

Q. Yes, first, I would like for you to explain, if Mr. Jones over at San Antonio at Crockett 744 wanted to talk to me at my office here at Preston 744, just trace exactly the manner of handling that call,

will you please?

A. Why, this subscriber at San Antonio would place his call at his telephone. He would get our recording operator. She would ticket the call and pass it to the line operator. There is a through circuit between San Antonio and Houston. She would call directly and get our toll operator here and as we are operating 103 between those points—

Q. Let me interrupt you. When you get your toll opera-

198 tor here, you mean an exclusively toll operator?

A. Yes, sir.

Q. That handles nothing but long distance tolls and whose salary is not carried into the expenses of the local exchange at all?

A. Yes, sir.

Q. Then what happens?

A. She gets the call and calls directly to the local subscriber and completes it without making any ticket whatever.

Q. Does what?

A. She passes the call directly through the local board to your station without making any ticket at all.

(By Mr. J. D. Frank:)

Q. In other words, Mr. Copes, the San Antonio operator gets in touch with the Houston toll operator and says "San Antonio is calling Preston 7, 4, 4?"

A. That is correct. She gets that number direct.

(By Mr. Howard:)

Q. Now, the toll operator gets that number and then she passes it on then to a local operator, does she not?

A. Well, necessarily, any local call involves the use of a local operator,

Q. That is what I say, she passes it to a local operator?

A. But when that is done, she just makes the connection, and the toll operator in San Antonio is in direct communica-199 tion with your telephone.

Q. The toll operator here at Houston calls for Mr. Howard's

number, just like a subscriber?

A. Just like a subscriber, and you are given direct connection with the San Antonio operator.

Q. Yes, sir, I am connected. The toll operator switches it?
A. Yes, sir, just in the same way as a local subscriber would call another local subscriber in Houston, just exactly. That is, she leaves the thing and is done with it. The operator in San Antonio completes the call.

Q. That necessitates the tax of one local call to complete that

long distance call?

A. Yes, sir, just time enough to plug into that switchboard like she would on a local call. She has nothing else to do.

Q. Then, when the conversation is over, she has to make the disconnection when they are finished talking?

A. Yes, sir, the disconnection is made by the San Antonio opera-

She just gets through with the conversation.

Q. Now, if she calls my number and reports that I am over at the Court House or slept a little late and haven't gotten down to the office, then later on what is done in that event?

200 A. Well, a delayed call-I can't be absolutely certain about that. I am not a traffic expert enough to tell you about that, but I believe the San Antonio operator follows that call up. That is my understanding.

Q. Then she tries my office again, that requires a repetition of

this same process, she calls up my office the second time?

A. Yes, sir.

Q. And maybe the third or the fourth time, trying to locate me?

A. Yes, sir.

(By Mr. J. D. Frank:)

Q. That is, the toll operator calls his office the third or fourth time?

A. Yes, sir, not the local operator; the local operator, she has forgotten all about that call, she don't know anything more about it.

Q. Let's see, how that can be. Once they call my office and I am not in, and that is reported, and the receiver in my office is hung up and there is a disconnection that at the Central office. Now, in order to get my office again, the local operator must be called upon to call my office again?

A. No, the local operator in Houston don't do anything at all further about it. She hasn't got anything more to do with that call,

because it will be followed up by the San Antonio operator, 201 the originating point of that call.

Q. You don't keep that plug in my office all the time? A. Sir?

Q. You have to keep a direct connection with my office at all?

A. No, no, they don't keep that line up until you come in. That line would be used a hundred times between then

Q. Then, how are they going to keep-

A. She does when the San Antonio operator comes back again. She puts up the connection, just like locally here in town.

Q. She repeats that as many times as it is necessary to do it?

A. Yes, sir.

Q. And there might as many as six or eight local calls attach against this exchange in order to handle one long distance call?

A. Yes, sir, but on that call, if you are not in, they would keep right after you until they completed the call, the San Antonio operator would.

Q. How is that?

A. I say, the San Antonio operator would keep on calling you and probably would ask for a report on it and we would collect the report charge, and if the call was reversed here, Houston would

get credit for it, and the reverse would be true if the call originated in Houston.

Q. Now, while San Antonio is making six calls and taxing the service with six calls, a local operator is taxing this exchange with the service of six calls, what function does long distance perform?

A. Why, the San Antonio operator is trying to complete that call,

the San Antonio toll operator.

Q. Then, to have quite a number of operators—Here is the idea, does the long distance toll or long distance service require more operators than it would if it could get, could eliminate the thing of you not being able to locate me all the time, they have to keep a lot of excess operators on there to take care of that service that turns out to be fruitless?

A. Of course, Mr. Howard, if we always had ideal conditions to

work under, we could do away with a lot of people.

Q. They do have to keep a lot of operators, just the way they did in the old days, start a call at San Antonio with the operator there and 'phone in here to Houston and send a message out around to the country, they are trying to locate the party, if they couldn't locate the party, she would have to call over again and that, of course, requires a great many more operators?

203 A. Yes.

Mr. Duls: What kind of operators, judge?

Mr. Howard: These would be toll operators. There would be no local exchange operators at all.

Q. So then, you introduce into the service the local exchange, now, a service by means of which there are a great many local calls in

order to complete a long distance call?

A. Well, Mr. Howard, as far back as the telephone business started, there has always been that necessity in any town big enough to have a separate toll board. The conditions haven't changed at all in that respect.

Q. You misunderstand me, Mr. Copes. I am not suggesting that we should go back to primitive conditions. I am merely trying to

show that this advance, while it is convenient, that it is in pursuance and in furtherance of the toll service, and that it imposes a very considerable labor upon the local exchange?

A. The completion of a toll call has always involved the use of

a local exchange.

Q. Of course it does.

A. In any place big enough to have a local exchange, the only place you would use a messenger service to send out 204 would be in a little town where there wasn't any local ex-

change?

- Q. I understand that, of course, that is true, but it is true that this completion process is a thing that means a very considerable burden upon the exchange. It takes a good many calls. Now, can you, for instance, can you tell me, how many calls you had in Houston during the month of September, long distance calls?
- A. Yes, sir, my first exhibit there, Exhibit No. 47, showed that. Q. Now, have you any kind of a record that will show about how many local calls will be involved in sending the outgoing message about the average number of local calls necessitated by sending one outgoing toll message?

A. No, sir, I haven't made any study on that, but I could doubt-

less get that information for you, we have it.

Q. You haven't made any study on it?

A. No, sir, I haven't personally.

Q. Now, another thing, Mr. Copes, what is the largest city in Texas in which you have, in which you deal with a local exchange and make this arrangement?

A. Dallas.

Q. What company is there in Dallas?

A. The Dallas Telephone Company. Q. They have another telephone in Dallas besides this con-

205 solidated phone service, have they?

A. No, sir, that is the only one, that is the exchange that was formerly the Southwestern Company's exchange and the Dallas Automatic Telephone Co.

Q. Well, at the present time, it is the Southwestern Exchange? A. No, sir, it is the Dallas Telephone Company.

Q. But it is the Southwestern Tel. & Tel. Co. property?

A. Well, it is controlled by them, yes, sir.

- Q. Well, I mean some company that you don't control or don't
- own.

 A. Well, the largest would be Waco.

 Q. Waco is a town of how many people?

Q. What company operates there?
A. The Texas Telephone Company.
Q. The Texas Telephone Company has a long distance line running into Waco, too, doesn't it?

A. No, sir, the Texas Telephone Company does not own any toll

Q. Don't own any toll wire?

A. No, sir. There are other toll lines other than the Southwestern lines that enter the exchange.

Q. What others?

A. Why, the Texas Long Distance Company own the toll lines going into Waco. There's three lines connect at Waco, 206 the Southwestern Lines, the Texas Long Distance lines, and the Waco & Mooreville Telephone Co., to a little town out there a few miles.

Q. Then how far, can you tell me, does any independent line

carry messages out of Waco?

A. Why, about the longest haul they can have out of Waco on their own lines would be to Port Arthur.

Q. Then what company do they connect with?

A. They connect with the Port Arthur Telephone Company that owns the local exchange at Port Arthur.

Q. That has a long distance line?

A. No, they have no long distance line. Q. Well, I am speaking about how far any independent long

distance toll lines can carry tolls in this state?

A. That is just what I answered, from Waco to Port Arthur would be about the longest distance for any one company. circuits through Port Arthur, Waco, to Denison and Sherman, would be the longest possible haul over an independent line.

Q. Then, in other words, there is no Telephone Company in Texas that can get its messages outside the State without making some arrangement with the Southwestern Tel. & Tel. Company.

A. Yes, sir, we have some very strong competition in the long haul business out of Texas with the Mackay Telegraph 207Co. They have long distance lines, I think they are into Kansas City now.

(By Mr. Duls:)

Q. Their telephone lines?

A. Yes, sir, they go to Nashville, Memphis and New Orleans.

(By Mr. Howard:)

Q. Have we any Mackay telephone line in Houston?

A. Yes, sir, they have an office here in Houston. Q. Well, is there any way of getting long distance messages out of Houston?

A. Sure, get them over the Texas Long Distance Telephone Co., over the Mackay Co. and there is an independent line out to Humble.

Q. Independent line out to Humble?

A. Yes, sir.

Q. Is that the only independent line running out of Houston?

Q. Is that the only independent long distance line running out of Houston?

A. I just said, Mr. Howard, the Texas Long Distance Telephone Company have a line out of Houston.

Q. Where does that go to?

A. That goes to Waco and goes with the Texas Toll Line 208 Co., and independent concerns, and goes to Dallas and Denison and Sherman, all over North Texas, up there, Greenville, McKinney.

(By Mr. J. D. Frank:)

Q. You could talk from Houston to St. Louis, Nashville and other places over the Mackay Co.?

A. Yes, sir, they are doing it every day without touching the Southwestern Line or the A. T. & T. Line.

(By Mr. Howard:)

- Q. How would a call from here to St. Louis be handled over the Mackay?
 - A. Why, it would probably go through St. Louis or Nashville.
 - Q. How does it originate here, where would a man go to talk? A. The Mackay office, they have a local office here.
 - Q. Do the Southwestern Lines negotiate any calls for them?
 - A. No, sir, not in Houston. Q. Not in Houston?

 - A. No. sir.

(By Mr. J. D. Frank:)

Q. The Mackay Company also has a number of long distance stations in Houston, something like 75 or 80 stations, hasn't it, Mr. Copes?

A. Yes, sir.

Mr. J. D. Frank: Here's the proposition. You can send a telephone message over the same line at the same time you are 209 sending a telegram and I think they can do it.

(By Mr. Howard:)

Q. Have you any idea how much business the Mackay people do?

A. Well, they do enough to worry us considerable. Q. You mean, you would rather have it all than to have what you do get, less what Mackay gets?

A. Yes, we would like to have it. They get some very nice busi-

ness out of here.

Q. Well, how large would it get to be, what volume before it excites

your envy?

A. Why, we don't know, Mr. Howard. We are investigating those things to find out as near as we can what they are doing, but we don't know what they are doing.

Q. People go to their office and use their office as a station?

A. Yes, sir. Some people go to their office and they have out in town here in offices that are large toll users, a toll terminal, we call it, I don't know what they call it, and they get connection that way, right from their offices.

Q. Have they ever applied to you or the Southwestern Telephone Company for exchange service?

A. I don't know.

Q. They would cause you a good deal more trouble if you would handle their messages for them here?

A. Do what?

Q. They would cause you a good deal more trouble if this exchange would handle their messages.

Mr. Duls: You mean, give them terminal facilities?

Mr. Howard: Well, yes, I don't know what you call it. I mean, permitting the subscribers to telephone down to Mackay that they want to talk to Dallas.

A. Well, I don't know, Mr. Howard, whether they have made

that request or not.

Q. Well, you do know, Mr. Copes, that if they had the privilege of using this exchange the way the Southwestern Long Distance toll uses it, that it would greatly facilitate and augment their business, don't you?

A. Well, it would facilitate the Mackay Telegraph Company's

business, yes, sir.

Q. It would facilitate it?

A. It would facilitate business over their lines, surely.

Q. Over their telephone lines?

A. Yes, sir.

211 Q. And have you ever made any study to determine about how large a local exchange like we have here will increase the volume of long distance tolls?

A. Do you mean, how much a local exchange connection will

increase the toll business of the toll line company?

Q. Yes, sir.

A. Why, I have never made a study in any town as big as Houston, or anywhere nearly as big as Houston. I have made

studies in smaller towns.

Q. And don't you know it to be a fact, Mr. Copes, that owing to the fact that in a City of 160,000 people, nearly all of whom have access to local telephones which originate calls and send them over the long distance wires, without the necessity of going to the long distance station or office, makes a city like Houston wholly incomparable to these little towns that you have been telling us about, like Brownwood and Denton?

Mr. J. D. Frank: And Dallas.

Q. No. He hasn't got everything included. You own everything in Dallas. Would you undertake to say that a city like Houston, in handling and in determining the relative value of these two services, the local exchange service, and the long distance toll service, is comparable to a city like Brownwood or Denton, or even Waco?

A. In a general way, yes, sir.

Q. Just in a general way?

A. Yes, sir.

Q. But in a specific way, is it comparable?

A. It would depend a good deal on the proportion of long haul business handled at a small point. If they had a good deal of it like at Brownwood, I consider Brownwood as very nearly comparable, as much so as any small point could be.

Q. Of course, you said you made no study of a city of this size.

How large a city have you made a study of?

A. The lar-est City I can remember is Georgetown, Texas. I was rather interested in that.

Q. How large a town is that?

A. Oh, it is a town of 4,500 people.

Q. Nearly everybody goes down to see the train come in?

A. No, the depot is too far away from town. It is about two miles from the depot, you know; they don't go down that far.

Q. Now, isn't it a fact that those little local exchanges like that, you can run a toll line almost as well with an exchange as you could without one, because people are all in the habit of going down to get their mail and going down town, in a little community, likely

they don't mind running up to the telephone office and getting their messages, or going down there to send one, in fact,

it whiles the time away or breaks up the evening?

A. Why, I wouldn't pretend to say to you or anyone that the

connection with a toll line is a great benefit to it.

Q. And the bigger the City, up until you reach a very considerable sized city, the bigger the benefit the exchange is to the toll line isn't it?

A. Well, I don't know, I don't think that follows necessarily. The class of the town has a good deal to do with it, the class of the

business.

213

Q. Weil, wouldn't that be a fact, you take a little place like Georgetown, or Richmond, or Liberty, over here, would it make much difference to the toll owners in those sort of places whether they had an exchange there at all or not, anybody wanted to call Richmond or Liberty or any of those little places, they would just put in a call and everybody in the village would know it?

A. Toll business handled in these small towns, if the business was split up into eight or ten cities, it wouldn't make much dif-

ference to us.

Q. Would you lose a single toll into Liberty or Richmond, if they

tore down a few wires-

214 A. (Interrupting.) Yes, sir, we would lose them. We would lose them anyhow in these little towns, even though we have connection with the local exchanges.

Q. Why do you lose them?

A. Why, they are not in their offices, or they are out fishing some

place, just as they are in the City.

Q. But if they are in town, you would get them just as easily as you would, because the girl would stick here head out of the window and say, if you see Jim Smith, tell him there is a call for him?

A. They hate to walk four or five locks worse than they do in Houston.

Q. But to get right down to the fact, that is a fact that in these little places, an exchange doesn't to any appreciable extent operate

as a feeder to the long distance line?

A. I think they do, Mr. Howard, in almost as great an extent as the large exchange. I think the benefits to both the toll line companies and the exchange is just about equal, regardless of the size of the town. That is my honest opinion. I know it is. You take an owner of a little exchange out here in the country, in a little town, if he hasn't got a toll line connection, and he wants to sell

that exchange, he has got a mighty poor chance to sell it if he hasn't got a toll line connection. That is the practical way it would work out. I think the value is just about the

same both ways.

Q. I don't suppose, Mr. Copes, that you ever went into, you made this set up based upon experience—

Mr. Duls (interrupting): Based upon the facts. This is one time

we are giving you the actual facts.

Mr. Howard: Now, you haven't. All you have done is you have gone out and shown us you have driven a hard bargain with these cities——

Mr. Duls (interrupting): No, they are independent companies, dealing with each other—

A. (Interrupting.) Mr. Howard, I will say this to you: I have handled these contracts with these connecting companies for about 12 or 15 years directly and I have never had a case yet where I couldn't go out into this man's office, and look at him, and look at his operators, and find out how much rent he paid, and how much he paid for his electric lights, and how much his ice cost him, and his coal, etc., and figure his—I generally go at it about this way.

I take his local revenue from his subscribers. I take the toll business that originates there, he gets his commissions on,

and I figure the expense in proportion to the run of that business, and I have never had a case yet where a man wasn't satisfied that he was being fully paid on an originating and terminating business on a basis of 25% of the outward business. Now, I have had cases where an exchange does, we sometimes ask them to do what we call "center checking", but we always pay them for that, entirely outside of their commissions, which, of course, is a fair thing to do, just exactly what we do for ourselves here in the Houston Exchange.

Q. Eliminating this Texas, or whatever it is, Long Distance Telephone Company, the one that operates in Waco, disregarding that, what in your opinion is the total investment in any telephone com-

pany in Texas outside of the Southwestern?

A. You mean, the company that has got the largest investment? Q. Yes, what would be your judgment of the company that has got the largest investment, outside of the Southwestern?

A. In toll lines alone?

Q. No, in all its property.

217

A. Well, that is a pretty hard question to answer off-hand, Mr. Copes. I hadn't thought of it in that angle.

Mr. Duls: The Dallas Telephone Co. would be the largest.

Witness: The Dallas.
Mr. Duls: You are speaking of toll lines?

Mr. Howard: No, I am speaking of telephone companies, any telephone company, the most invested by any company, outside of the Southwestern?

A. The Texarkana Telephone Company, I think, has.

Q. That is the one operates in Waco?

A. No, sir, at Texarkana.

Q. At about how many different points are they operating?

A. You said investment in total telephone plants, you didn't say toll lines.

Q. I am not now asking you about toll lines. I am asking you

about how many different points they have exchanges?

A. They have an exchange, and they acquired one the other day at Sulphur Springs. Well, Greenville is the Greenville Telephone Co. but it is owned by the same people, and they own Jacksonville over here.

Q. Own it or own its stock?

A. They own the plant. I would say they are about the biggest. Q. Have you any idea at all about what their properties are worth?

A. Why, I haven't, anywhere near what it would actually be. Q. You haven't made any study of this question based

upon the expense of handling the tolls in Houston, have you? A. No. sir.

Q. You have never made any comparison between the investment of the Southwestern Telegraph & Telephone Co. in toll property and its investment in local exchanges, have you?

A. No, sir.

218

Q. You have never made any investigation as to the representative earnings of the toll properties or the exchange properties?

A. No. sir.

(By Mr. Duls:)

Q. Is it worth anything, Mr. Copes, to the local exchange subscribers of this Houston Exchange, to have long distance connection with the Southwestern Telegraph & Telephone Company's long distance lines?

A. Yes, sir.

Mr. Howard: Of course it is.

Mr. Duls: Well, you have been asking from the other angle, and I wanted to ask him from this angle.

Q. Suppose there wasn't no exchange of the Southwestern Company here, Mr. Copes, and there was just the lines of this Mackay Company coming in here, would the subscribers be-there wouldn't be any subscribers, would the people of Houston, the business 219 men, be in as good a position as they are now with the Southwestern toll lines here connected with this exchange?

A. Certainly not, there couldn't be any question about that.

Q. It is also a fact, is it, or is it not, Mr. Copes, that by reason of this long distance connection with the Southwestern Toll System, you get a great number of subscribers here for the Houston exchange. which you would not otherwise obtain?

A. Oh, there is no question about that. That is true of any ex-

change, Houston, or anywhere else.

Redirect examination.

Questions by Mr. Duls:

Q. Now, Mr. Copes, Mr. Howard was asking you about the number of times a local operator would have to perform services for the long distance lines on a call from San Antonio to Houston, he was talking about this 103 method that we have now in effect?

Yes, sir.

 A. Yes, sir.
 Q. That is, the operator here in Houston makes no record of the call?

A. No. sir.

Q. That merely then relieves the long distance operator 220 here of the necessity of making a record for that call?

A. That is correct, yes, sir.

Q. The operating lines at the Houston end is only one of the things that this 25% of the outward toll revenue covers?

A. Yes, sir, that is correct.

Q. There's billing of the account and other expenses connected therewith also?

A. Yes, sir.

Q. You have got Dallas in some of these exhibits. Have you made a computation of what Dallas would receive if it were on the

same basis that Houston is?

A. Yes, I thought as Dallas was the only city that was comparable in size with Houston, it would be rather interesting to know just how it would work out in Dallas, if the Dallas Telephone Co. was actually operating-

Q. (Interrupting.) Just a minute. You mean if the Dallas Telephone Co. were performing the same services for the long distance

lines?

A. Yes, in exactly the same way, doing all the billing and bookkeeping, and in addition to that furnishing all the local operators that the Houston Exchange was doing. In Dallas they would re-That is due to the fact of the large ceive 8.9 cents per call.

221 amount of long and short haul business out of Dallas.

Q. You haven't made any study of the expense of performing these services here because you are not an accountant, are you? A. No, sir.

(By Mr. J. D. Frank:)

Q. There is just one question I want to ask Mr. Copes. for the City, at least made the inference in one of his questions that you were building up your methods of handling the toll business out of expense of the local system here. Now, that 103 method that you spoke of, the method of handling your long distance calls, doesn't impose any additional work on the local operators here in Houston. does it, that is, the local exchange operators.

A. No, sir, not a bit.

Q. It doesn't affect it either way or the other? A. No, sir.

Q. And any charge that you have made in handling your long distance calls, say between San Antonio and Houston has nothing to do with the work on the part of the local telephone operators?

A. No, sir, it simply cuts it down a little. It cuts down the work. It is in favor of the exchange if there is any difference at all.

999 (By Mr. Howard:)

Q. You say, in favor of the exchange. You mean that the exchange would do less work if the tolls were not handled-

A. How's that?

Q. You don't mean to say that these exchange operators would have to do more work if this long distance was eliminated entirely?

A. No. I didn't say the local exchange operators. I said the Houston exchange.

(By Mr. J. D. Frank:)

Q. It simply cuts down the work of the Houston long distance operators?

A. Yes, sir, that's the idea, and benefits the exchange to that de-

Q. But so far as the Houston local exchange operator, as contradistinguished from the Houston long distance operator is concerned, it does not affect her work at all?

A. Not in any degree at all.

(By Mr. Howard:)

Q. You say it cuts down the number of long distance operators?

A. It saves the time of the Houston long distance operator, to the degree that it takes her to write a ticket, that is all. It eliminates the making of one ticket. 223

Q. Now, what benefit is that, or saving is that, to the local

exchange?

A. The local exchange is paying these local operators and getting a commission for it, getting 25% for it. If they had to make tickets, the local exchange would probably have to have more operators for making those tickets.

Q. Of course, that is our contention that if this long distance was

eliminated entirely, that the expense of operating this exchange would be much less than they would gain by it, because we claim that the 25% wouldn't pay the actual cost.

A. Well, I think it does, Mr. Howard, and you have got the consensus of opinion of the telephone people all over the United States against you on that. They are the people that ought to know.

Mr. Howard: Well, we haven't had it worked out for us yet on an operating basis.

Mr. D. A. Frank: You haven't had your expert on it yet.

Mr. Howard: You come here and tell us you have got a confused line of accounts that you can't seggregate for us and you are going to hand us something in the way of a tip and that is not what we want. What we want to know is what burden you have put on us.

Mr. D. A. Frank: I don't think that is a fair statement, but go on.

Q. Now you said awhile ago, Mr. Copes, that a long distance toll line benefitted an exchange in that it got a great many more subscribers?

A. Yes, that is the tendency of any exchange, of course.

Q. Then it is also the tendency that the more subscribers you get the more expensive it is to operate the exchange?

A. Yes, I guess that is true too.

Q. So that the direct effect of the long distance is—So then, the long distance tends directly to increase traffic expense and the operating expense of the exchange per 'phone?

A. No, that would be so little that it couldn't be figured probably. The adding of an additional subscriber to the exchange, the local

service between those subscribers-

Q. (Interrupting.) Now, let me get the laugh now. You gentlemen know so much about these things and you are here to give us an exhibit of technical knowledge,—Now, let's analyze that thing and see where the laugh is. You have told me that, haven't you, that the long distance toll adds subscribers to the exchange?

A. Yes, sir, each connection of the long distance lines to the exchange will have a tendency to increase the local business of the

exchange.

Q. And the more local business you get on the exchange, the more expensive per exchange it is to operate. Now, show me the joke.

A. The more subscribers you add to the local exchanges increase the operating expenses of the exchange, but it is not the adding of the toll business to that that causes the increase, adding of the local stations is what causes the increase in the operating expense.

Q. Of course, adding the new stations is what causes the increase.

A. Mr. Howard, the time that the local operator spends in handling toll calls for the average subscriber wouldn't amount to anything.

Q. What?

A. I say, the average time that the operator would spend in handling these toll calls wouldn't amount to anything. (By Mr. Duls:)

Q. Now, let me ask you, if the more subscribers makes 226 the expenses increase a little bit, how about the revenues which the exchange receives?

A. Certainly, the revenues of the exchange would absolutely be

increased by every toll call they handle, of course.

Q. And also by every exchange subscriber that they receive?

A. Why, certainly.
Q. And that revenue would be on the City's side in these cases?

A. Why certainly.

Mr. Howard: But you are amusing. The more people that you add to the exchange, the more burden you put upon the service, although it is true you may have more people to talk to.

(By Mr. D. A. Frank:)

Q. I would like to know, Mr. Copes, if you have got any idea in Houston, what per cent of the long distance business will be done, say by a thousand subscribers out of the 27,000 stations here?

A. Why, I don't know exactly, Mr. Copes, but I would say that in Houston, you could pick a thousand subscribers out of the Houston exchange that would give us probably 75% of our toll business.

Q. So that if the City of Houston were owned by a separate company that is not the Southwestern and did not want to make this contract with the Southwestern, the long distance lines could by putting up a little switchboard of a thousand stations and putting long distance telephones with a thousand subscribers do practically 75% of the business they are doing here now?

A. Practically, yes, sir, I would say 75% of it.

Q. That ever been done, Mr. Copes? A. The Mackay Company is doing it in Houston right now, they are doing it in Dallas, and doing it every place they are operating. They are putting in those toll terminal telephones all around town.

Q. The reason the Mackay doesn't do it more extensively is be-

cause they only have 10 or 12 offices all around the-

A. (Interrupting.) All they want to do is help pay their lines. Q. How would the stations be put in, who would operate them? A. The toll operators would handle them, the toll operator would handle the thing without any local switching at all.

Q. Then, what do they do with the tolls when the calls come in? A. A case like that with just a thousand operators, you 228 would probably have two or three of them, and the rest of them handle the toll business. I don't know just how they would do that. I think it would be feasible.

Q. You think it could be done for very little cost?

A. Yes, sir.

Q. The proposition is, you would undertake to go around among these 27,000 subscribers and get the ones that use long distance tolls and cut them down to a thousand and give them-

A. (Interrupting.) Toll terminal stations. We furnish them stations now for that purpose.

Q. You think if you would cut them down to a thousand in this

city-

A. (Interrupting.) We would get 75% of our business.

Q. When did you figure it?

A. Oh, I haven't seen Houston figured out that way, exactly, but I have seen it figured out, and off-hand, I would say a thousand stations in Dallas would take care of 75% of the business.

Q. In Houston?

A. In Houston I mean.

Q. What is the general percentage of long distance telephones you have to the business phones in Houston?

A. Oh, I would say 40 to 60.

229 Q. You don't have nearly as many business subscribers as you do residence subscribers?

A. About 40% of the business, I should say.

Q. 40% of the business and 60% of the residence?

A. Yes, sir. Q. Out of the 40% business, there would probably be less than half of those that did any long distance business?

A. You have some residence subscribers, of course, that would do

more toll business than just business subscribers.

Q. But if you had a thousand of the leading toll subscribers, most of them would be business subscribers, wouldn't they?

A. Oh, yes, the biggest part.

Mr. Howard: This is a fact, if you stop to think about it, that it is the scattering tolls that you get that are very considerable, and it is only these that you would lose, you wouldn't lose tolls from business men, if you didn't give them this service. If it is a business proposition, they would go to the exchange.

Mr. D. A. Frank: But they wouldn't go as often.

230 Q. But men that are talking about, and women in their homes and girls that want to talk to young men and young men that want to talk to girls, if they couldn't get to a 'phone where it was handy, they wouldn't use them, would they? And isn't it a fact it would be mighty hard to locate the tolls that are originated over the local exchange lines.

A. It would depend on how bad he wanted to talk to these girls. Q. Maybe he would go, and there's lots of them that wouldn't?

A. Oh, yes, lots of them wouldn't.

Q. Lots of them more of a social nature of calls, that wouldn't go at all?

A. Yes, sir, that is true.

231 A. E. Scott, a witness for Plaintiff, testified as follows:

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Scott, my understanding is that upon the books of the Southwestern Company you have a charge of an expense incurred on toll lines, have you not?

A. We have the maintenance expense in a separate account.

Q. Aside from the books, there is a certain amount of expense incurred in the operation of toll lines?

A. Yes, sir.

Q. A part of that expense you allocate to the different exchanges

throughout the district,—throughout the State?

A. No, sir, we don't allocate any part of the expense to the ex-The expense in connection with the toll work incurred at the local exchange is charged to that exchange at that time. It is not an allocation, but an actual expense.

Q. Incurred in handling and terminating-

A. (Interrupting.) There is no division made between local and toll on expense of a common nature.

Q. They are all combined, those expenses,-they are all 232 combined and can not be separated?

A. No, sir, we make no separation.

Q. Interest and depreciation and maintenance, whether toll or

local, all go into one pot, into one classification?

A. You speak of depreciation. Depreciation is not separated on the books as to any class of plant,—it is simply one total amount.

Q. I am speaking about the tolls and toll lines and local toll

equipment in the local exchange. You make no separation of the maintenance?

A. The maintenance is separated as regards the maintenance on

the lines outside of the exchange.

Q. I am talking about the lines inside. The only-

A. (Interrupting.) The only maintenance item which is charged to the exchange and which is in connection with tolls is the toll maintenance, or the maintenance of toll central office equipment. That is included as a charge against the exchange.

Q. The toll lines—they run right into the exchange?

A. That is not charged to the exchange.

Q. Do you have separate toll lines running up to the exchange? A. Yes, sir, in some cases, and in some cases you use the 233 exchange.

Q. You do separate the maintenance on that?

A. Yes, sir.
Q. But all this office equipment is carried together?

A. That maintenance item is a small item.

Q. A small item? A. Yes, sir.

Q. Mr. Scott, the only other expense of toll operations that you have referred to and that is not paid for,-charged locally to the local

exchange is the maintenance of the toll lines, the connecting lines connecting different exchanges and the taxes on the toll lines. What other toll operating expenses are there?

A. If we were to make a rate case-

Q. (Interrupting.) I am not speaking about that. That is a differ-What other operating expenses have you in connection ent question. with toll lines?

A. Traffic expense, commercial expense, there is a general expense,

there is depreciation.

Q. Depreciation and maintenance, you mean the fund set aside to rehabilitate the toll line?

A. Replacement.

Q. Where is the traffic expense charged? Is that separate? A. The traffic expense when incurred at an exchange is 234 charged to the exchange.

Q. What do you call traffic expense?

A. Operating expenses.

Q. You mean the operators? A. Yes, sir.

Q. What operators do you have that are not at the different local

exchanges?

- A. We have points like Waco, for example, where we have no local exchange. We have operating expenses there because we operate a toll board there.
 - Q. Some few places in the State where you haven't an exchange.

A. The total amount is quite considerable.

Q. About how much?

A. I think it is getting up to \$300,000.00.

Q. A year?

A. I would think so, but I have made no figures.

Q. It might be \$100,000.00.

A. I know it is more than \$225,000.00 because I have seen that much on it.

Q. You do allocate to the local exchanges the general expenses? We allocate general expenses to the exchanges in proportion to

the direct expense of the exchange.

235 Q. You have found it to be a practical thing to allocate the general expense to the different exchanges, have you not, in certain cases?

A. We allocate the general expense. That is a thing that is so

general you can't very well do otherwise.

Q. What is in the way, if you desire to do it, of allocating to the different exchanges a portion of all the toll operating expense, including maintenance?

A. I think you would have to make a study of the State as a whole, you would have to consider every individual item. One item would have to be prorated one way and another item would have to be considered and looked at and probably prorated in another way.

Q. Why wouldn't that be true of general expense? You don't allocate general expense, a great part of it, upon the exact amount that has been done in the particular locality but you allocate these expenses along general lines.

A. I simply have one general basis for apportioning general ex-

Q. And if you desired to do it, you could make another general

rule for the allocation of toll operating expenses?

A. Yes, sir, but there would be so many elements entering into that.

236 Q. But it could be done?

A. It would be very difficult to get any basis-

Q. (Interrupting.) It would be difficult?

A. Yes, sir.

Q. But it could be done?

A. Anything can be done whether it is done right or wrong. That would be the question.

Q. The Company has never seen fit to do it, but they have been

able to allocate a great many general charges to the local exchanges.

A. Rather than make a lot of prorating of expenses we have apportioned, given a proportion of the revenues to the exchanges.

Q. Where are the books of the Southwestern kept? A. The general books are kept at St. Louis.

Q. On the books at St. Louis do you have an account set up with every exchange in the State?

A. No, sir. Q. Where is that done?

A. At Dallas.

Q. That is done at Dallas?

A. A summary of certain accounts. For instance the traffic account, that is kept by the traffic department.

Q. You have books showing both local and toll, showing every station, showing what is going on at the different exchanges 237 in the State.

A. Yes, sir.

Q. Otherwise you couldn't have come and told us about these things.

A. Every department keeps its own part of the books.

Q. Where is the account, where do you keep the account where you take care of the tolls? You don't keep it in the Houston exchange or the San Antonio exchange, where do you keep it?

A. The records we keep of the toll revenues is the record of the

originating business at Houston.

Q. Who do you have the account with? You don't have it with Houston or you don't have it with San Antonio, you just set up an account with the toll lines of the State?

A. I don't quite get your question. We don't have an account

with anybody.

Q. I know you don't, it is all one Company and it is the books of the same company, but you do segregate Houston from San Antonio, and you segregate Houston from the rest of the business.

A. Not certain expenses.

Q. Do you segregate the toll lines, and open up an account for the toll lines on certain direct expenses?

A. On the maintenance, only. That is the only item that 238 is the only item that we keep as a separate item.

Q. You keep taxes separate.

A. No, sir, taxes is just one total.

Q. You allocate the taxes?

A. No, sir, the taxes are carried as a total tax proposition, and when we make up figures for a rate case-

Q. (Interrupting.) I am not talking about a rate case.

Mr. D. A. Frank: Let him finish his answer.

A. We keep it as a total and when we have a case such as this. or a rate case, we go to the records and find out the amount of taxes applicable to the particular town or exchange or district, or whatever division we are working with.

Q. You find out what was actually paid in the particular town?
A. Yes, sir, but there is no record kept of that.

Q. You have got to find out how much has been paid and it is not allocated but is based on definite figures?

 A. Yes, sir.
 Q. Suppose you had a hearing involving the toll exchanges, where would you get those taxes?

A. Toll exchanges, we don't have such things as toll exchanges.

Q. Suppose you were called upon to hold a rate hearing 239 upon the toll property. The State Commission contended that your toll charges were too high-

Mr. D. A. Frank: There is no such commission in the State of Texas.

Q. I know that.

A. You would have to go to the same source of information to get information relative to toll taxes.

Q. Suppose the toll taxes became a pertinent matter?

A. You would have to go and find out what you have paid on toll.

Q. In all the different counties in the State?

A. Yes, sir, it would not be susceptible of accurate truth because we don't make a record, making accurate division between exchanges and tolls on taxes. It would be an approximation.

Q. You could get the taxes paid by all exchanges and deduct the

difference and that would be the taxes chargeable to tolls.

A. I think I explained in connection with Houston, or Harris

County, how we determined that.

Q. You say that you can find out from the local exchanges, all the taxes that have been paid locally.

A. Yes, sir.

Q. But you haven't a separate record upon the books, 240 but just carry one large tax item. Then when you deduct all taxes chargeable to local exchanges, it is reasonable to infer that the balance is toll taxes, is it not?

A. You said in order to get the-

Q. (Interrupting.) Wouldn't that be true?

A. No, sir, it isn't true. You haven't quite got the proposition.

Q. I thought maybe you could answer that without going into details.

A. If you want an answer, I will give you an answer.

Q. First answer it, "yes" or "no"

A. I can't answer it "yes" or "no". I am a whole lot like a man

who was asked whether he was still beating his wife-

Q. (Interrupting.) I have asked you a thing that is either true or not true. I have asked you, if after deducting the taxes that you say you can ascertain by finding out what you have been paying for the local exchanges, if you can find out the amount you pay for toll taxes by deducting the sum of the amount paid at the local exchanges, from your total tax.

A. If we went to our records and determined the total amount of taxes chargeable to each exchange and against each exchange in proper proportion—there are taxes which are not separable,

like the capital stock tax, which is a charge against the 241 property as a whole, for the State, both for Texas, and the United States, give a proper proportion to the exchanges and make some sort of allocation as between an exchange and toll and do that for every exchange and when you got through you would have what would apparently cover the toll taxes, but that would be an estimate.

Q. What?

A. That would be an estimate, because you have to use allocation.

Q. When you pay your taxes—— A. (Interrupting.) We pay for a County as a whole. Like Harris County. We pay taxes for the County as a whole. That includes exchange and toll property. Q. You have to make an allocation of that amount, don't you?

A. Yes, sir.

Q. So you do allocate a part of the taxes in the local exchange?

A. Yes, sir.

Q. It wouldn't be a difficult matter to allocate upon a fair basis between the exchanges of operating expense, would it?

A. If you knew how to do it.

Q. How is that?

242 A. If you knew how to do it. You might be fair if you knew how to do it, and you would not be fair, if you didn't,you might be very unfair.

Q. I am assuming a man that knows how to do it.
A. That is the whole question. Nobody has discovered how.

Q. If you get the pro-rata part that the Houston Exchange bears to the other exchanges-

A. No, sir, that would be very, very wrong.

Q. It could be done.

A. But it wouldn't be right.

Q. Why?

A. Because there might not be any relation between the amount of the investment and the income, or the expense and the amount of the investment. There might not be any relation between the property value and the property cost.

243

Q. It might be done on the number of tolls handled or the number of stations.

A. You can take a half dozen guesses.

Q. You don't think the toll lines could be allocated to the different exchanges, the toll line property could be allocated to the different exchanges upon any sort of approximation.

A. We are doing that.

Q. How? How is that? A. We are doing that. Q. How?

A. By allowing 25% of the toll revenue.

Q. That is not an allocation of the property? A. That is an allocation of the revenues.

Q. That is the method you used?

A. It is a satisfactory method to two hundred and some odd other companies.

Q. You have got wedded to that idea?

A. That method has been accepted by the commission.

Q. Speaking about things that can be done mathematically-A. (Interrupting.) Mr. Lyndon has tried to do things mathematically and they get you to an awful place.

Q. You think that?
A. I think that Mr. Lyndon will admit it.

Q. I will ask you why you can allocate in one case and can not allocate when requested to do it.

A. We haven't been requested to do it that I know of.

Mr. D. A. Frank: What do you want allocated?

Q. I am trying to get you to tell us what percentage of your toll property in Houston, what percentage it bears to the other exchanges throughout the State.

Mr. D. A. Frank: The toll property in Houston bears to 244 the other property?

Q. Yes, it can be done.

A. It would be a long job.

Q. It could be done?

A. An almost endless job, and could only do it, as I said before, every account would have to be considered on its own basis and it would be such an involved study that when you got through you would not be very proud of it. I wouldn't.

(By Mr. Howard:)

Q. So then, in short, the way this thing is set up on the books a part of the local and a part of the tolls are confused in that they are inseparable and a small part of it, maintenance and some taxes and the operators that are working where there are independent exchanges are not allocated and then instead of trying to carry the scheme of allocation all the way through, so far as the expenses are concerned, and so far as the plant investment is concerned, why you just allocate this 25% as a sort of an offset of compensation?

A. It is as compensation in lieu of the expenses incurred by the

exchange in performance of toll work.

Q. Although, you don't know upon what basis you could actually settle with the local exchange in regard to the expenses? 245

A. Well, as I have said before there is a number of com-

panies that are accepting that-

Q. (Interrupting.) No, I am talking about the actual expense, you can't come here and tell us what the actual expenses are that this exchange incurs for handling the tolls?

A. No, sir, I can not.

Q. You could not do that?

A. No, sir, I could not.

Q. Then the 25% is founded upon some sort of a guess or approximation?

A. It is not a guess or approximation, it is a special percentage made by ourselves with all our connecting lines and by connecting lines with-in their dealings with us.

Q. And that makes it sufficient to pay the cost requirement of

what the costs are?

- A. It must be pretty nearly right or the other fellow would not take it.
- Q. That is your conclusion about it, you are an accountant and your mind is supposed to dwell upon——
 A. (Interrupting.) That is why I deduct the 25%.

Q. You mean you initiate this 25%?

A. No.

Q. You take 25% because the Executives of this company 246 tell you to take it?

A. But if I had not taken 25%, I would have had to make

a lot of apportionment.

Q. What is your attitude towards this company, an accountant or a director of policies?

A. I have no attitude; I am an accountant.

Q. Then you could talk to me about the accuracy of your figures and bookkeeping without mingling it up with whether it is for the company or against the company, you can make those differentiations can't you?

A. I think so.

Q. Now, foregoing for the time being, what the policy of your company is, I am asking you whether this is an accurate conclusion and whether it has been arrived at with accuracy or whether it has an element of inaccuracy in it? That is a simple question, it is either accurate or it has an element of doubt, and inaccuracy.

Mr. J. D. Frank: You assume there must be some inaccuracy in your question.

Mr. Howard: Well, if it is inaccurate he can tell me so.

A. If an allocation or a pro rate—if the use of an allocation or a pro rate means that your statement is going to be accurate

or inaccurate, even my method of doing it or the method 247 you are suggesting, either one, would be right or it would be wrong, because I have taken some allocations and I have not taken some that you are suggesting.

Q. Any allocation that you take, in other words, is but an approxi-

mation?

A. It is an approximation. It is an estimate based upon the best

we have available.

Q. Now, Mr. Scott, have you ever made any computations to find out, you have figured it out here, what Houston is earning and you have probably figured out what all the different exchanges are earning, have you ever taken the trouble to take the earnings of the toll lines and the value of its property and its operating expenses and determine the annual return over and above all operation expenses including maintenance and depreciation?

A. No, sir.

Q. Earned by the toll lines?

A. I don't think that has ever been done, Mr. Howard. It has not been done by me and I don't believe anybody else has ever done it.

Q. It can be done, can't it?

A. I don't know whether it can or not. I don't think I would be able to do it.

Q. You don't think you would be able to do it? A. No. 248

Q. Well, now, let's see the process involved. The first thing you would get, the value of the toll lines, that would be comparatively easy to get, approximately correct?

A. No, that would be very difficult. It would mean an inventory and an appraisal of the toll lines throughout the entire State of

Texas.

Q. Well, we will take it the way you have it on your books.

A. Well, I can't start out with that assumption. You mean go to the books and find out what the amount on the books is for toll property?

Q. You have got an inventory of your entire toll lines in the

State haven't you?

A. No. sir.

Q. Is this company operating without having an inventory of its

A. Yes, it took them about three months to take an inventory of the property here in Houston alone. We have no inventory of the properties in the State.

Q. You haven't any inventory of the toll property in the State?

A. No, sir.

Q. How do you set up the number of poles you have?

249 A. That is simply accumulated record of a number of items just like my books are and an accumulated record of an amount of money; that is not an inventory.

Q. Do you mean to say, Mr. Scott. hat this company is today not in position to tell how many poles it has in the operation of its Statewide business?

A. It has a figure in the record of a number of poles which they think they have and I can tell you, Mr. Howard, on the side, that it is very wrong, the number on the record.

Q. Well, then, how did they keep any account of their business,

if they have not any record?

A. The number of poles we have is not important.

Q. Whether you have one hundred poles or a million?

A. The number is not valuable. It is a nice statistical record and probably some department may have some use for it, but it is not important.

Q. So what you do know about what this toll equipment cost—

A. We have a record, the accumulated book record of the cost of the tolls property, that is the toll lines. We have the toll switchboard included on the books in our exchange switchboard account. There is no separation there.

Q. Well, your books have been kept then so you can't separate the toll lines from the exchanges at all, you can't even give me an approximate amount of property that is invested in

tolls as distinguished from local?

A. I said I can't tell the amount shown by the books of the toll

Q. Well, let's assume if we can get over this approximately, if you want to set it up that way, or get it from the books, just assume it can be done, it is a human possibility. Then once we have the valuation we have got a start towards finding the earnings of the toll lines.

A. Once you have the valuation, you have a basis to start with, of

course.

Q. Then the next thing is the amount of your earnings?

A. That is about all you want then.

Q. All right, well now, we have got too rather important steps in making this computation; now, the next thing that would concern us, would be our operating expenses including maintenance and depreciation, wouldn't it?

A. Before you could find your net returns, you surely would have

to determine what your expense was.

Q. Well, we deducted then, we get the operating expenses and we deduct it from our revenue, wouldn't we?

A. Yes.
Q. That would be our next step. Then we have our net return in round dollars?

A. Yes, sir. Q. Then to reduce it to percentages, we would divide our net return by our capital investment?

A. Yes, sir.

Q. Now, have you any way of disputing the proposition that that computation as Mr. Kelsey said would amount to forty per cent on your toll line investment as segregated and separated from your exchange property?

A. Mr. Kelsey is undoubtedly so far wrong-

Q. (Interrupting.) I know you think he is wrong.

A. We think he is wrong.

Q. You think he is wrong, but you have never done it. Your

mind can't grasp the idea?

A. It would be my opinion that that—that if we were making forty per cent on our toll business we probably would not have any toll business; it would be more than the traffic would bear.

Q. But it would help the traffic might-ly wouldn't it? operating expenses were paid by somebody else, that would tend very largely towards making the toll lines a handsome enterprise, wouldn't

it?

252

A. If we had enough toll lines and would make one hundred or two hundred per cent profit on it, we could give exchange services free, Mr. Howard.

Q. Yes, and isn't that the reason what you claim-for

showing the deficit here since time began?

A. Because we have been giving service, not only free, but for less

than what it cost.

Q. And haven't you been giving what you call an apparent deficit, because as a matter of fact, there was no real deficit and because the operation of this exchange was an auxiliary to the operation of the toll lines and that you are making money all the time out of the property in its dual capacity?

A. No. sir.

Mr. D. A. Frank: Do you object to the toll lines carrying Houston? Mr. Howard: I am perfectly willing that they should do it and they should do it because Houston helps carry the toll lines. That is our proposition.

Q. So you can't grasp any idea at all, except setting up these tolls on the basis of 25% allowance out of the initiating revenue?

A. Out of the initiating calls. Yes, I could make it up on a lot of different methods, but I would not feel that they were

right.

Q. You would not feel that they were right? This is the one that you have been pursuing, I understand, you do not pretend to initiate it and you are, yourself, simply carrying it out as any accountant would?

A. That is a fact.

Q. It is what you would do?

A. It is what we do and that seems to be a pretty logical thing to follow, doesn't it, Mr. Howard? Q. You, I have no doubt, think it is.

A. The Commissions throughout the territory think it is a satisfactory way to handle it.

254 A. E. Scott, a witness for plaintiff, testified as follows:

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Scott, in arriving at your expenses in operating this exchange, you primarily upon your books set up all expenses, including the taking care of the toll?

A. Yes, sir.

Q. Then how did you get the toll expenses out of the general

operating expenses?

A. We don't take them out of it, in the making up of my figures, I attempt to get away and do get away from estimates as much as possible, my figures are actual expenses, and we have—I know we have in our expenses all our toll expenses.

Q. You have all your toll expenses?

A. Yes, sir; but to offset that we put in this 25% revenue, which is the usual revenue allowed to other companies—and that allowance is there.

Q. Have you any way of telling or determining what additional expense you are put to in the way of operation by handling this

toll charge?

A. I have never made any figures which would tell what the operating expenses were for the toll business, the two are so interlocked that the only way to get at it would be by making arbitrary estimates and making prorate of the various accounts, a very involved proposition, and very inaccurate when finished.

Q. You would not undertake to say that even 25% would pay the

additional cost of taking care of the toll traffic?

A. I would take into consideration the fact that taking that 25% basis, with companies in Texas that 25% would be about right.

Q. I am talking about your books, you are here as an accountant

and not as an advocate for the company I take it?

A. Well, I haven't made any study as to whether that is right or that is wrong.

Q. You don't know? A. No, sir, I don't know.

Q. Well, aren't your books so kept that it is possible to segregate the toll expenses from the general operating expenses?

A. No, sir, the two are so interlocked that you could only get the toll expense out by, as I said before, by arbitrary estimates.

256 by pro-rates.

Q. Then the proposition is, as I understand it, you come here with a lot of intermingled accounts, some of which are occasioned by the local exchange, some of which are occasioned by handling the toll traffic, and say we have had so much expense, but to offset that, why, we will pay you 25% on the outgoing toll charges?

A. Well, the fact that the figures are so intermingled and the fact that I am dealing with the records of the company, as shown by the books, is my reason for handling it in this way, it is more satisfactory to make one estimate, if you want to call the 25% an

estimate, than to take something out of one account and another account and all the accounts that would be involved.

Q. Well, you cannot tell us from your books how much of these general expenses was occasioned by the taking care of the toll

charges?

A. No, sir, the books don't show a division between toll and the exchange expense as in regard to the use of expense; of course the toll expense in connection with the plant outside of Houston is kept as a toll expense and not included in any of my figures—that is purely toll expense; but common expenses are all included in my figures.

257 Q. Isn't it susceptible of determing every expense occasioned by any one telephone call, that you can take a tele-

phone call as a unit and ascertain the expense of that call?

A. Well, that would be simply an estimate, you try to deal with a unit as small as a telephone call, you are getting down to a very small item, you will find you cannot confine it to that one particular thing; in connection with your toll business, you have your overhead, just the same as you have with your exchange business; you might in that one direct case, on that particular call, but that does not end the proposition—you have got building expense, for example, you have got your toll property, property in the same buildings with your exchange property, you have got to pro rate there or make an estimate of some kind; and so it goes all along the line, all kinds of estimates and pro rates would have to be worked up in order to get a figure that would be presumably correct—and then you would not be able to say it was absolutely correct, it would be a matter of the opinion of the men who were making the estimate.

Q. As to that item of toll expense, then, we have got to remain in

the dark?

A. Well, I think the allowance of 25% being-

258 Q. (Interrupting.) Well, I understand, you have told me the 25%.

A. That is accepted by seven hundred companies in Texas and appears to be satisfactory.

Q. Well, these toll companies—you are speaking of independent companies, are you?

A. Yes—that is, all the different companies throughout the state

that make any connections with us.

Q. Are there seven hundred different telephone companies in Texas?

A. Yes, sir.

Q. Seven hundred local exchanges?

A. Well, I say seven hundred local—there are seven hundred companies that do some long distance business and who have contracts with us on this 25%, or 121/2% basis, or some similar proposition.

Q. In these cases the Southwestern controls the long distance toll

line?

A. No, indeed not; a great many of them, the little companies in one particular have toll lines themselves, are connected with us at some point-perhaps at this exchange or some other point; in some cases their own toll lines run into our board.

Q. But in most cases where you have got this arrange-259 ment there is no long distance toll line owned by the local company?

A. Probably every local company has some toll lines.

Q. It has some? A. It has some.

Q. But then in order to get in connection with the outside world they necessarily have to use a long distance line of the South-

western company?

A. Well, not necessarily; the Mackay people are down there, the Postal people are here, the Western Union Telegraph, they all have a line.

Q. What proportion of it, have you any idea? A. No, sir, I don't know.

Q. Well, that is all.

260

Division of Tolls.

F. M. Hoag, a witness for Plaintiff, testified as follows:

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Hoag, in making this inventory, just what property in the City of Houston belonging to the Southwestern Telegraph & Telephone Company did you exclude?

A. The property not used or usable for telephone purposes.

Q. Briefly, what was that?

A. That was the Houston Home Telephone Company lot and building, the lot and building acquired by the Southwestern when they took over the Houston Home Telephone Co. in Houston Heights at Harvard & 5th. A small lot 20 x 20 which was a storeroom lot owned by the Houston Home Telephone Company, and the old Taylor central office lot and building at the corner of Center and Taylor streets. Those three pieces of property. I also excluded all the dead drops. That is the wire that is not connected to working telephones, and also the wire in the buildings that are not connected to working telephones, and in residences, it being our practice in our accounting system to charge that part of the property

off at the time the telephone is disconnected. 261

Q. Anything else excluded? A. The transmitters, receivers and induction coils which are not the property of the telephone company, the Southwestern Telephone Company. Also, the furniture and fixtures used by the district men who have their headquarters here in Houston was excluded in that those men have no supervision over the Houston Exchange.

Q. Anything else?

A. I think that is all.

Q. My question involved all property owned by the Southwestern Telegraph & Telephone Company located in the City of Houston.

A. Yes, sir.

Q. You have overlooked, I believe, long distance-

A. (Interrupting.) Yes, sir, I was considering the Houston local exchange property.

Q. I said all the property of the Southwestern.

A. Yes, sir, all the long distance property has been excluded, and that is long distance switch-boards, the toll underground cables. the toll poles and wires and cable boxes, all parts of the long distance plant, including the toll test boards and telegraph equipment and other associated apparatus.

Q. That property, of course, is all owned by the same com-

pany? 262

A. Yes, sir.

Q. And is just a difference in the way you inventory and the account you charge it to, and all that?

A. Yes, sir.

Q. Matter of classification and segregation?

A. Yes, sir.
Q. Has the property you excluded as performing long distance toll purposes been used exclusively for long distance toll service?

A. Yes, sir. Q. And you have not undertaken to exclude from the inventory any property that is jointly used by the long distance service—for the long distance service and the local exchange service?

A. Every telephone in Houston connected to the Houston Exchange might be used for long distance purposes, as well as local

purposes.

Q. In fact, it is used?

A. A great many of them are, yes, sir.

Q. You inventoried, of course, all those lines and those exchanges?

A. Yes. sir.

Q. And those lines leading to individual telephones?

A. Yes, sir.

263 Q. You included all the buildings, the exchange buildings?

A. Yes, sir.

Q. Four of them, I believe, in this city?

A. Three central office buildings. Q. And another exchange, isn't there?

A. The Capitol central office equipment is housed in the Preston central office building. There are four central offices, but three central office buildings.

Q. All those central office buildings are used by the long distance

tolls?

A. In that long distance calls when completed over a subscriber's telephone, passes through the central office equipment in those buildings, yes, sir.

Q. The buildings house the long distance equipment, don't they?

A. There is no long distance equipment in the Taylor central office building, nor in the Hadley. All of the long distance switchboards and equipment is in the Preston central office building.

Q. Housed in the Preston building?

Q. It is necessary that they have a house for this long distance toll apparatus?
A. Yes, sir.

Q. And that apparatus is quite considerable, and quite expensive?

264 Yes, sir.

Q. The business done and revenues received from the long distance service is very extensive, and amounts to a great deal of money in the course of a year?

A. Yes, sir.

Q. If the earnings were polled of the long distance service and of the local exchange, the long distance service originating here, and formed one general fund, have you any idea about what proportion the revenues received from the long distance service would bear to the whole fund?

A. No, sir, that is an accounting matter.

Q. That you didn't go into?

A. I cannot answer it.

Q. Who handles that branch of the matter?

Q. Can you give me the name of the man that probably handled it?

A. Mr. Scott.

Q. Then, I believe you say that a great many of the lines, in fact, all the lines, the individual exchanges, the individual telephones are all ready to receive long distance service, and to carry on and transmit a long distance call to the subscriber, and do it whenever the subscriber has a long distance call.

A. The telephone company has for years advertised to the 265 effect that each telephone is the center of the system. are over seventy-eight thousand places in the United States that can be reached from any local telephone connected with the

Houston exchange.

Q. And they are a part and are used in that long distance service, and help to produce the long distance revenue, every individual telephone?

A. Yes, sir.

Q. Depending, of course, on the number of calls the particular individual subscriber receives. Some are very active in handling and carrying on long distance service?

A. Yes, sir, however——
Q. (Interrupting.) And some are very seldom used for that purpose?

A. Yes, sir, however-Q. (Interrupting.) But all of them are equipped and ready for that service at all times?

A. Yes, sir, but if this is a proper answer to your question: The development of the local telephone rate was carried on simultaneously with the development of the local telephone exchange.

Q. I don't know that I just get what you mean.

A. The rates for local telephone service were developed as the local telephone exchange was developed. The rates for long distance service was developed along with the development of the long 266

distance lines, and in my judgment the rate for a long distance call is between the long distance switchboards.

Q. It should be?

A. Yes, sir.

Q. But in fact, it is not. It is from the originating individual subscriber, say in Antonio to the individual subscriber in Houston to whom the message is transmitted.

A. In my judgment, no, sir. My opinion is that rate is from the long distance switchboard in San Antonio to the long distance

switchboard in Houston.

Q. In other words, it is chargeable only and property to the long distance?

A. Yes, sir. And those earnings are necessary to carry the long

distance calls.

- Q. In that event the service of continuing these calls, transmitting them and carrying them to the long distance central office, and delivering them from the long distance central office in Houston to the subscriber is in the nature of a donation by the local exchange to the toll service?
- A. Not by any means. The local exchange is credited with a percentage of the long distance earnings, which percentage is intended to cover-
 - Q. (Interrupting.) That refutes your answer of a moment ago, doesn't it?

A. No, sir. 267

Q. That is what I thought was done,—both services are recognized in making up the grand total of that charge?

A. If I can finish my answer, I think I can make it clear to you. Q. I think it is clear. My idea is clear. I would like to get

A. The earnings from the long distance lines,—that is, a percent-

age of those earnings is credited to the local exchange. Q. Exactly.

A. That, in the case of Houston, being 25 per cent. Q. We will get to that 25 per cent later.

A. That 25 per cent cares for the cost of completing those long

distance calls in the Houston exchange.

Q. That is what we will want to ascertain later on, whether it It is just facts I am getting at. Not whether or not it is a correct conclusion. But at any rate, the fact I am getting at, every individual telephone is available for handling long distance calls?

A. They advertise that fact and are proud of it.

Q. And you do it?

A. Yes, sir.

Q. And they are used?

A. Yes, sir.

Q. That is the practice and custom?

A. Yes, sir.

268 Q. The local exchange buildings are carried in the inventory as you do here—they house the long distance equipment? A. The Preston central office building does.

Q. Has offices where the long distance management is con-

ducted and carried on?

A. But in apportioning the furniture and fixtures-

Q. You are getting into that accounting business-

Mr. J. D. Frank (interrupting): Let him answer the question and he will explain it.

A. In the inventory we only apportioned a portion of the furniture and fixtures used in the handling of the business of the Houston Local Exchange.

Q. I caught that as you went over it before.

A. Yes, sir. Q. But nevertheless, the building itself is used by the general officers, a part of which is the management of the long distance

A. Yes, sir, we apportioned the office furniture and the fixtures. Q. I understand you did in your inventory, the fixtures and the furniture?

A. Yes, sir.

Q. But you did inventory the entire building?

A. Yes, sir.

269 Q. And inventoried it as the property used in the local service?

A. Yes, sir.

Q. And you inventoried every individual or local telephone?

A. Yes, sir.

Q. Substantially?

A. Yes, sir.

Q. And every sub-station? A. Yes, sir.

Q. As the property in the local service?

A. Yes, sir.

Q. You didn't undertake to set aside or apportion any part-I know you couldn't in kind, but in percentage—the part of that equipment that goes to long distance service and the part that goes

A. All of the property inventoried in the Houston exchange is necessary in the rendering of local telephone service in the Houston

exchange.

Q. It is also necessary, is it not, in rendering first-class up-to-date long distance service?

A. Yes, sir, just like local service.

Q. It is to the joint interest of both of them?

A. Yes, sir.

Q. All this wiring and local sub-stations, and conduits and all this splicing, and poles, and everything of that kind is a joint enterprise, and they are used in that way, so then it becomes

a matter of accounting, which I understand you didn't go into, to try to segregate and show how much of the property is used on one, and used on the other, if you had to make a division between the two as to earnings and expenses?

A. No, sir, the answer to that is the answer which I gave you just previously, which is to the effect that all of the property inventoried in the Houston exchange is necessary in the rendering of local telephone service in Houston. There could be no-sub-division made.

Q. You answered the question a while ago that it was all necessary also to an up-to-date, first class long distance service. You couldn't have first-class long distance service in this city today without those very things that are being used in the local service?

A. We couldn't have any long distance service in Houston with-

out telephones.

Q. That is very true; there is no question about that, is there?

A. No, sir.

Q. The local exchanges are the feeders and the revenue producers for the long distance enterprise, are they not?

A. To a great extent, yes, sir.

Q. That is, you could in the old days, before they had many local exchanges—I guess you and I remember when the telephone came into existence?

271 A. Yes, sir.

Q. And the telephone would run through a town and the people would go in there and talk over the long distance exchange, and would get their messages in that way, and it was used very seldom, very extraordinary for a man to use long distance telephone service before they had exchanges?

A. Yes, sir.

Q. And then as the business progressed and the exchanges were built up, and people began talking to their neighbors and to their wives, and then they began to feed the long distance lines?

A. Naturally the easier you make it for people to talk long distance, the greater the amount of business you get from them.

Q. So then, we get back to the original proposition that they are mutually beneficial to one another, the long distance helping the local exchange, and the local exchange helping long distance. That is true, isn't it, Mr. Hoag?

A. Yes, sir. But I wish to reiterate that the property inventoried

is all necessary for the local telephone service.

Q. I know that; that is obvious. But at the same time it is just as obvious that it is necessary for the long distance service?

A. It is necessary for long distance service, although long distance service can be rendered without the local telephone exchange.

Q. And it is also true that a very good local service could be carried on in the community without the long distance service?

A. Yes, sir, that is true.

Q. It comes right back to the point that they are mutually beneficial, one to the other?

A. Yes, sir.

273 GEORGE P. PLAYER, a witness for Plaintiff, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. Now, counsel has questioned you with reference to certain parts of the property used for long distance purposes as well as local purposes and you stated that was taken care of by certain allowances to the local exchange. Do you know how much is usual to allow the local exchange on account of long distance arrangement?

A. That matter has been gone over to my certain knowledge in over one hundred cases in which I have participated in, and an al-

lowance of 25% is the standard allowance.

Q. Is that the allowance made by the Oklahoma Public Service Commission, and the Missouri Public Service Commission?

Q. And do you know from your connection with the Commissions that they have made an allowance of that kind in nearly one hun-

A. They have.

Q. In over one hundred cases that you have been connected with? A. Yes, sir.

274

 \dot{Q} . Was contention made in any of those cases that the 25%was too low or that more should be allowed than the 25%? A. No, sir, it has always been the fixed amount.

Q. And the Commissions recognize that as a fair allowance and allowed it in various cases?

A. Yes sir. At one time, several years ago, as low as 15% was

being paid, and the Commissions raised it to 25%. Q. Do you know whether or not that is the allowance made by those Commissions at the present time?

A. Yes sir. I know that they allow that.

Mr. J. D. Frank: I believe that is all on that,

Cross-examination.

Questions by Mr. Howard:

Q. You, as an engineer, Mr. Player, have never tried in all your long experience on Commissions, have never tried to work that out to e whether that was an arbitrary allowance, or whether it would bear some relation to the service rendered by the respective companies, the long distance and the local exchange, never went into that, Mr. Player?

A. I can say that with every telephone company in Oklahoma that I made a specific set up as to the cost of handling the long dis-

tance business by the exchange and as to what commission 275 should be paid, and it ran higher than 30%. In some cases they asked for an allowance of as much as 50% for handling the long distance business, but the Commission found that 25% was an equitable amount.

Q. But they did raise it from what they had been allowing, 15%?

To 25%.

Q. My question is, Mr. Player, whether that Commission, or whether you as their engineer at any time ever got the idea by working it out, something upon a partnership basis, where they are joint enterprises in handling the messages as to what portion should be set aside to each. Whether you ever tried to work it out that way instead of taking the local exchange and just paying it enough to pay for the expense it was put to in handling this long distance business. Have you ever tried to work it out with a view of letting them participate in the profits of the transactions?

A. No, sir; I have only had experience with it as I told you.

Q. Just compensated them for the expense of doing it?

A. Yes sir.

P. K. BAKER, was recalled as a witness by the Plaintiff, and 276 in answer to questions propounded, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. Your name is P. K. Baker?

A. It is.

Q. You have been sworn heretofore?

Q. And you are the General Commercial Superintendent of the Southwestern Telegraph & Telephone Company?

Q. You have been connected with the Company for a good many years?

A. Yes. Q. You were connected with the Company prior to 1900?

Q. Mr. Baker, prior to the time of this litigation the rates which were being charged for telephone service in the city of Houston were \$5.00 per month for direct line business service and \$2.00 per month

for direct line residence service? A. Yes. Q. Do you know when those rates were put into effect in 277 the City of Houston?

A. I think it was in the early '90's.

Q. Somewhere about 1900 or 1901 or '02? Yes.

Q. Those were the rates which were in effect in the city of Hous-

ton in the year 1909 at the time the city passed an ordinance,the ordinances, which have just been read?

A. That's true.

Q. These rates have been in effect ever since then, with the exception of the period of Government operation?

A. That's true. Q. Mr. Baker, are you familiar with the statement which was filed with the City Council on December 27th, 1917, in which the Plaintiff in this case asked the City of Houston for permission to increase its telephone rates in the city of Houston, are you?

A. I am.

- Q. I will ask you to state whether or not the Plaintiff made any efforts to get the City to take some action with reference to that subsequent to December 27th, 1917, that is, with reference to the application for an increase in rates?
- A. They did. My recollection is that several communications were sent to the City authorities, also my recollection is that personal requests were made to the City authorities requesting them

278 to take action.

Q. Then along in April, 1918, the City finally gave the Company a hearing before the City Council, did they not?

A. That's true.

Q. Then, did the Company take any further action with reference to trying to get the City to pass on the application for an increase in rates?

A. They did.

Q. Between the time of that hearing in April, 1918, up until the time that the Government operation of telephone lines was taken ever on August 1st, 1918, did the Company make any efforts to get the City to pass on that application?

A. They did, frequently.

Q. Had the City taken any action by August 1st, 1918?

A. They had not.

Q. Did the City take action thereafter?

A. They did.

Q. Do you know approximately when the action was taken and what that action was?

A. I don't recall the date, but I do know that the mayor, my recollection is that the mayor recommended to the city commissioners that they refuse to grant the request of the Telephone Company, and that the mayor's recommendation was approved.

Q. Mr. Baker, at the time this ordinance in 1909 was passed the rate in force at that time was one that had been voluntarily

put in by the Company?

A. It was.

Q. The Company had never undertaken at any time to collect

higher rates than those in force?

A. Excepting, Mr. Howard, as I testified before, that years ago they put on a charge of \$80.00 in Houston for long distance telephones. At that time they were using what is known as Blake transmitters and at that time it was long distance transmitters

Q. But for this same character of service you never charged more . than \$5.00?

A. Yes, because everything now is equipped with long distance transmitters; in other words, it is the same class of service and same kind of instruments which at one time we charged \$80 00 for and for which we are now charging \$60.00 a year.

Q. During what period was that rate in effect in Houston?

A. It was in the early 90's. Q. Very early 90's, wasn't it?

A. Yes, sir.

Q. It was probably prior to 1895?

A. I should say so.

Q. Then qualifying it in that way, say that from 1895 on you had not undertaken to charge any higher rate than in force in 1909?

A. That's true.

280 Q. And that was voluntarily put in by the Company?

A. That's true.

Q. And that rate was never sought to be changed by the Company until December of 1917?

A. That's true.

281

Division of Tolls.

J. C. Kelsey, a witness for defendant, was recalled and testified as follows:

Direct examination.

Questions by Mr. Howard:

Q. Under subdivision four of that heading you have an item of "Toll investments chargeable to Houston," of how much?

A. \$808,621.00.

Q. Now, Mr. Kelsey, how did you get this \$808,621.00, that you—

A. (Interrupting.) I went to the company's books and found their total toll earnings for the entire territory.

Q. How much did you find them to be?

A. \$4,667,523.00.

Q. Now then, why from merely finding that fact, did you state up here, \$808,621.00, as a part of that investment to be allocated to Houston?

A. I took the proportion of four million that this item totaled and as against this \$441,029.80. Let- see, I have forgotten what percentage that is.

Mr. D. A. Frank: I can tell you what percentage it is.

282 It is the first one of the four that——

A. (continued.) (Interrupting.) Don't bother me today, I am sleepy. I will be ready for you tomorrow. Now, I took the percentage then of the total toll business governed by the company in

1919, of \$4,667,523.00, in proportion to the earnings of Houston, or \$441,000.00.

Q. (Interrupting.) Before we get down to the earnings, let's find

out why you didn't set up this \$808,621.00.

A. That is what I am getting at. It is a rather tedious transaction. This proportion of the total company's tolls of \$4,667,523.00, to this \$441,000.00, assigned to Houston, and that is practically ten per cent. Now then, the company's books show that the entire investment in the toll line properties is \$8,602,000.00. Now you take that, practically ten per cent, it is about nine and a half, would give you that \$808,621.00.

Q. Then in other words, you allocated the investment in the entire

toll equipment to Houston?

A. Yes, in proportion to the total other toll lines. That is the only equitable proposition.

Q. Upon a certain equitable percentage basis?

A. Yes, sir. Houston subscribers use these toll lines about ten per cent of the total.

(By the Master:)

Q. Wait a minute; you say over what territory, now do you get your-

A. (Interrupting.) Over the entire territory.

Q. Over the entire southwestern territory?
A. Yes, every dollar that belongs to the Southwestern Company in question.

(By Mr. Howard:)

Q. It is within the State?

A. Yes, within the State. It is in this circle here.
Q. The Southwestern operates only in Texas?

A. If this proportion is carried out, it will be about sixteen and two-thirds per cent of the subscribers.

Q. The people in Houston use ten percent?

A. Ten percent of the total toll business originates here in Houston.

Q. Of the entire State of Texas?

A. Yes, sir, of this Company. Therefore, I allocate, using these lines, ten percent, and charge ten percent investment to Houston. That gives us \$808,621,00.

Q. Now you have allocated it on the basis of about ten per cent?

1. Yes.

Q. How does that compare with the percentage used by the company in allocating its different charges throughout the State?

A. How's that?

Q. Did you ever check that?

A. How's that?

Q. You know the company in allocating its general expenses to the different exchanges, uses a certain percentage for Houston.

A. Sure, I made a preliminary total here of the showing for the whole company, \$26,500.00 in the City or sixteen and one-half percent in the City. I find that the traffic expenses of the entire company are \$2,592,158.00, and assigned to Houston is \$418,005.00, or exactly sixteen and a half per cent. But when you get the maintenance and depreciation, we find that nineteen percent of the maintenance and depreciation is assigned to Houston.

Q. Have you noticed or checked up the general expenses, like the general office expenses and what portion of that expense is allocated

to Houston?

A. General office expense for the whole year, for the company was \$337,384.00. They have assigned to Houston, \$48,640,00.

Q. Well, what is the percentage?
A. It is about fifteen percent.

Q. Fourteen and a fraction?

A. Yes.

Q. Or practically one-seventh? A. Practically one-seventh.

Q. Now, if you take their figures and use that percentage, that would increase the allocated investment, the entire toll investment, it would increase the total toll investment in Houston, somewhat, would it not?

285 A. Yes, we are not trying to allocate on the basis of subscribers or the basis of value. It is the actual use of those toll lines of Houston subscribers as compared to the other subscribers in the system. This is the most remarkable toll earning company in America.

Q. And taking that allocation on that basis, it amounts to \$808,-

000 -

A. (Interrupting.) Yes, \$621.00.

Q. Now, then, you add that to the local value as you have found it and it gives you a total of how much?

A. \$4,855,392.00.

Q. Upon which the company should earn a return in this locality?

A. In Houston, yes. Q. All right. Now, Mr. Kelsey, that is your method and your conclusion in regard to the value of the property used by the company in this city.

A. Yes.
Q. And upon which they can earn a return?

A. Yes.

286

Toll Division.

Mr. KELSEY again resumed the stand for further cross-examination.

(Questions by Mr. D. A. Frank:)

Q. Is long distance connection worth anything at all to a local exchange?

A. No, it is a liability almost.

Q. A liability?

A. Yes, sir. Q. Have you always been of that opinion?

A. Absolutely.

Q. How many lines are there around Houston, do you know?

A. No.

Q. Would you be surprised if I were to say that there were 50 lines going out of Houston?

A. I wouldn't be surprised. Judging from the pay-roll.

Q. You have got a number of lines here?

A. I don't know.

Q. There are 17 railroads and there are usually lines running out the railroads. It wouldn't be out of reason to say there are 30 lines running out of Houston?

A. I can't give you any idea until I know. I don't know busi-

ness at all.

Q. Let's assume that there were 30 lines running out of 287 Houston, would it hurt the local exchange to have one of those lines cut?

A. Well, not on the 25% basis. They are losing money on that

proposition as it stands.

Q. Would it hurt the exchange to have half of them cut out?

A. They would probably make more money by losing them under those contracts. You are speaking now of the benefits of the toll, are you? Are you going to argue that long distance is a-

Q. (Interrupting.) Would it hurt the local exchange to have all

the long distance lines cut?

A. Well, I don't think it would hurt it materially because 97% of the calls, as a rule, are handled around right in the center.

Q. Don't you know that a lot of people wouldn't take local service unless they had long distance lines?

A. No.

Q. Don't you know that in building up an exchange of 27,000 stations that necessarily a great many people wouldn't have taken-

A. (Interrupting.) You can't conceive of a situation whereby a man wants the long distance telephone and not the local connections. Look here, communities with a thousand grew up without any toll The Duluth Telephone Co. got along well without the long distance lines, and Minneapolis and St. Paul.

Q. Mr. Kelsey, suppose we had some lines out of here, from here to Beaumont—You know where Beaumont is, don't you, 288

pretty good little town over in East Texas?

A. I suppose so.

Q. Now suppose that was owned by the Texas Long Distance Co. and they were to cut off connection entirely with our exchange here, and we had a contract, wouldn't we be damaged by cutting off those

A. Well, you got many a toll line which is an independent company.

Q. That don't answer my question. Wouldn't we be damaged? A. Not on a 25% basis. You would probably save money.

Q. Probably save money on the basis of 25%?

A. Yes, it is costing this property, the time you count every item that goes into it, a good deal more.

289 LAMAR LYNDON, a witness for defendant, testified as follows:

Direct examination.

Questions by Mr. Howard:

Q. Oh, yes, I understand you can tell how much money was spent in Houston, but I want to know for the local service,—that's what we are trying to get at. You see, as I understand this situation, they are working 2 plants here, so to speak, they have got two industries,—they have got,—we can separate them in our minds anyhow, to long distance service, and they have got a long distance service plant and they have a local service plant. I am speaking now as a layman, and not in the language of the American Tel. & Tel. Company. Now, Mr. Lyndon, are these two enterprises as conducted here by this company, we call it the Southwestern, because it suits Mr. Frank better, are the expenses of each one kept definitely separated?

A. I understand they are not. I have requested the separate expenses of the two and have been told that there is no separation and no way to obtain it.

Q. Well, these local lines here terminate nearly every long dis-

tance call, do they not?

A. Certainly, the subscribers' stations are the terminals of the

long distance service.

Q. Well, the lines then, the local lines are all engaged in promoting and handling calls for the long distance part of this dual enterprise?

A. Yes, obviously.

Q. Now, is there any way of telling what part of these operating expenses would handle and terminate the long distance calls proportionate to the expense of handling the strictly local calls?

A. I have been unable to obtain it.

Q. The company has even confused its accounts in that regard with a lot of general costs in the way of operation that have been incurred in handling both of these enterprises and there is no way to say which,—how much was incurred in one enterprise and how much in the other?

A. No, except by certain assumptions, and the attempts to ap-

proximate it.

Q. Then the company as I understand it, hands this exchange an arbitrary amount of 25% or something like that on outgoing calls and say you can have this for what you have done for us. That's the way the handled it, I believe?

A. It is.

Q. Nothing definite about it There is no relation apparently

between the 25% and the value of this local plant used in the operation except that it bears some relation, because as they take it a certain amount of the service rendered by the local plant is another amount, but what relation one bears to the other, that is not apparent?

A. No, it is an arbitrary sum of money, which is a proportion

of the gross income from tolls and is not related to any other factor.

Q. You say nearly every part of this local equipment is engaged

in the long distance toll business too, is it not?

A. A large proportion of the subscribers' stations are used for toll equipment and they constitute practically the only terminals for long distance business.

Q. (Interrupting.) Now, My. Lyndon-

A. (Interrupting.) I am going to finish, Judge. It is physically impossible to separate the long distance from the local system because of these facts.

Q. But, now aside from the fact that these private lines and the local lines, subscribers' stations, terminate these calls, what other service is rendered by the local exchange in the handling of tolls?

A. Well, the local exchange must necessarily make the connection between the toll lines and the local lines; it must perform a definite service for each call, either incoming or outgoing,—it must keep the records—

Q. (Interrupting.) And it is not shown on this company's books, and seems to be incapable of ascertainment just what the expense of handling these long distance messages is?

A. I understand that those costs have not been segregated

and I know that I have been unable to obtain them.

Q. So that this company stands in the attitude of having complicated these accounts and then comes up here in trying to make a disclosure—

Mr. D. A. Frank: He did not state that; he said it was a physical impossibility to dive them.

(By Mr. Howard:)

Q. Well they are in the methods of the company, in their opera-

tions that they give them, they complicate these accounts?

A. I should say they simplified these accounts by getting the entire account in one account and not segregating it; it is very much more simpler than to separate them to so keep them, but it is impossible for anybody else to determine exactly—

Q. (Interrupting.) What is chargeable to one and what is charge-

able to the other?

A. Yes.

Q. And to that extent they are complicated and confused?

A. If there is desire to segregate them, to that extent. If they wanted to distribute the funds pro rata to this it would be impossible to do it.

Q. If a man does that he confuses and complicates the ac-

counts, does he not?

294

A. He confuses the accounts, I couldn't say that he complicates them, because this is what it is: if you go to take it off yourself and not segregate them-

Why aren't they complicated; if a man sells Q. (Interrupting.) one hundred bushels of wheat and gets a dollar a bushel and keeps account of the expense of handling it that's a simple transaction?

A. Yes, sir.
Q. But it's because the same man handles a lot of barley and a lot of rice and makes no separation of the expense, then he is complicating them, is he not, and confusing them together? He has got a complicated account so that in order to render a statement in regard to each-

A. (Interrupting.) It is confused to the extent that a statement

cannot be rendered to each one pro rata.

Q. And that is what this company has done, it has handled these two enterprises, and handled two funds with a common organization and has made no attempt to ascertain as the service is being performed how much is rendered in the performance of one service, and how much in the performance of another.

A. I understand that to be so; it has been so stated to me, and I

have been unable to get the segregation.

Q. Because they didn't show the segregation?

A. None that we have had access to.

Q. Then the company is in this attitude of having confused the accounts so far as the cost of operating this local exchange is concerned, and they come before the court saying we can't tell you what this local service has cost, but the two services have cost us so much money, we are handling it arbitrarily and saying that the service that we do not care to investigate will be so much, and we ask you in determining whether we are earning a return or not to charge in the rest of the expense to the service that we are investigating.

Mr. D. A. Frank: I object to that as being a long involved state-The rules of evidence ought to be approximated in the Federal Court, and I object to it upon the ground, in the first place, that it is a repetition for about the third time of the same thing and in the next place it is full of statements that reflect upon the company, and it is trying to assume that what the witness has testified is not the case,—that it is impossible to make such changes and divisions in the handling of these two accounts as the witness has already designated is physically impossible. It looks to me like it

is not a proper question.

The Master: The question is somewhat involved. 295

ahead Mr. Howard.

Q. Read the question back to him, will you please? (The question last above was read back to the witness by the reporter.) Let me state that question, Mr. Rosenthal, and take it down as I state it, will you please.

Mr. Lyndon, the attitude of the company as I understand it, is that they are conducting two enterprises here that they have confused and combined together the cost of the service on the two dif-

ferent enterprises and having done that they come before this court saving we are not able to tell you what this service that we are investigating has cost, but we submit to you the amount of the cost of both services and we propose to hand—the charge to the service that we are not investigating a certain arbitrary amount, and ask you in determining the net return to charge the service that you are investigating with the remainder of the combined cost. Is that the attitude of this company so far as disclosed by the books and the information you have received?

A. Substantially that is as I understand it; that the company does not separate the cost incurred in Houston for the two services. That it furthermore allocates from the other offices sums of money

disbursed which for 1919 amounted to \$119,357, expenditures not being locally incurred; that there is then credited to the local exchange, as against the total local expenditures plus the allocated charges, the entire local receipts for local service and 25% of the local receipts for long distance service.

understanding of the situation.

Q. Then in determining and trying to bring some order out of chaos in regard to their earnings, and expenses, we are met not only with these circumstances that I have just detailed, that on account of the two enterprises that they are carrying on, and not keeping the costs separately, but further meet with the trouble, the same proposition that they are conducting many other exchanges long distance service, but many other points in trying to arbitrarily allocate to this exchange certain expenses that they may or may not have incurred in operating this exchange?

A. That is true.

Q. As an illustration they allocated, I believe, did they not, undertake on their books, the income tax?

Q. And at the same time claiming that so far as this exchange is concerned they have made no earning upon which an income tax would rest?

A. That's true. They also allocated pensions, and I understand that there is not a single dollar paid for pensions in Houston. Maybe since my information as to pensions

has developed, but at that time, no money was paid for pensions here, but there was an allocated charge for it, and charges of that nature, that is, the money is not locally expended and the expenses are not locally incurred.

Q. Then owing to their inability to come before the City Council or before the Court and say how much this service they are rendering the public is costing them, they resort to such methods that they have adopted for themselves and say you must take this calculation and this theory and this estimate in the place of our actual That's the best they have undertaken to do, and as expenditures. you say, the best they can do?

A. Well, it is the best they have done. I have certain impressions however, that they are not sufficiently backed up by facts which I have been able to discover to make it a matter of testimony, but I

am assured in my own mind that the officers of this company have a pretty fair idea if not an exact one of what the toll service is costing them. That is my belief and it is only a belief.

Q. If they have got any such thing they haven't carried it forward

and you have never seen any set up of it?

A. Never, but I have been informed from sources that I regard as reliable—

298 Mr. D. A. Frank: I object to his information unless it comes from the plaintiff in this case. I think there ought to be a limit to hearsay testimony.

(By Mr. Howard:)

Q. Did you hear it from any of the officers of this company?

A. No.

Q. Well, we won't go into that. Now, Mr. Lyndon, being confronted with this chaotic condition here with regard to the expenditures and the operating cost, and to some extent with the revenues that have been derived, you have simply declined to follow the arbitrary methods of trying to arrive at the proper results the company has advanced and have brought before the Court here certain other theories that could be followed in trying to get a solution of this problem, in other words, rather than to take the burden that the company has failed to discharge, and under the circumstances trying to arrive as nearly as accurate result as can be arrived at.

A. Yes, using always the sums of money that have been set up on the company's books as the basis on which these statements have been

made.

Q. Well, now, Mr. Lyndon, the first method that you have pursued here, I believe you have pursued the method of setting up all these toll revenues and earnings of this exchange?

A. Yes, all the toll revenues. That of course, is for all outgoing calls, and the company here collects the incoming

calls without charge.

Q. You do that for the reason that the expense of operating the tolls have been charged here?

A. Just so.

Q. And that the operating expenses of these toll lines have been allocated to all the different local exchanges throughout the territory leaving them fully paid with no operating expenses chargeable to the toll lines?

A. I understand that to be the case.

Q. That has been done here,—they have allocated to this exchange all the operating charge of the toll lines?

A. Yes.

300 LAMAR LYNDON, a witness for Defendants, testified as fol-

Direct examination.

Questions by Mr. Howard:

Mr. Howard: I introduce this as Lyndon Exhibit No. 15, on the question of Toll Lines, as follows:

Q. Mr. Lyndon, have you made some examination of the books in regard to the matter of the toll lines of this Southwestern Telegraph & Telephone Company?

A. Not personally. I have a statement which was given to me by Mr. Kelsey, and he said that he had himself stopped and looked

at the books and gotten this figure from them.

Q. Which figure was it now that you-

A. (Interrupting.) That the book cost of the toll line property is \$8,602,359.00.

Mr. Howard: Now, we were furnished that statement, but it seems that the company omitted something from the statement.

Mr. J. D. Frank: I think I wouldn't make that statement. 301 Mr. Howard: Why, Mr. Scott said so, he said that they had omitted the right of way.

Mr. J. D. Frank: He didn't say that, however, Mr. Howard.

Kelsey went up and saw the books and took that record himself.

Mr. Howard: Well, he went up and asked for the right of way books and took it off. That is what I don't understand is why we get these figures and books-

Mr. J. D. Frank: Mr. Kelsey went to the company and got these

data himself.

A. This exhibit, I may state is based on this figure being correct. Insofar as this figure is incorrect, if not true it is incorrect, then just by that proportion will the conclusions be changed.

Mr. D. A. Frank: I don't see the materiality of the exhibit. doesn't have any bearing on the Houston exchange at all. are not trying a toll rate case here.

Q. What does this exhibit show?

Mr. D. A. Frank: Hearsay founded on hearsay.

302 Mr. Howard: Why is it hearsay; it is from your books. A. The statement which I have and which purports to be a statement from the company's books-

Mr. D. A. Frank: But which is not.

A. (Continuing.) And on which statement this is based, shows the following: That the annual toll receipts, gross, for 1919 were \$4,667,000.00; that the book cost of the toll property, that is, of the toll lines, and excludes the property which is included in the inventory of exchanges, is \$8,602,000.00. A high percentage condition for a pole line is 80%.

Mr. D. A. Frank (interrupting): That is according to your theory. A. That is according to my knowledge, sir. I have built many

pole lines.

(By Mr. D. A. Frank:)

Q. (Interrupting.) One that had been completed in three days

would be the same kind-

If we accept this as only three days I will A. (Interrupting.) modify that, but I have understood that toll service has been rendered here for years.

Q. Go on.

A. That in a pole line that has been erected for a number of years a percentage condition of 80% is high.

Q. And you never took an inventory in your life and still

you say that?

A. I never said I never took an inventory in my life. I would still say that if I had never seen an inventory because I know that to be a fact.

Q. Go ahead.

A. Therefore, if the book value as set up is correct, the present value of this property, with due regard to depreciation, is \$6,682,-The depreciation has occurred and it has obviously been collected because we know that the fund exists. Now, taking the maintenance of the pole line at 3% per annum-

Q. Where did you get your 3%? A. Maintenance at 3% is a right fairly good figure for maintaining pole lines, depreciation at 8%, and taxes and incidentals at 2%, makes a total of 13%, which it costs the company to own that line and keep it maintained. Now, that applies not to the depreciated value, but to the original cost value, and 13% of \$8,602,000 is \$1,118,200.00, which is the annual expense this company is subjected to to maintain these lines. The income required to pay 8%

of \$6,682,000.00 is \$549,000.00. Now, the 8% income 304 added to the cost of maintaining the lines comes to a million,

six hundred and sixty-seven thousand, two hundred dollars (\$1,667,200) per annum; so that this figure of \$1,667,200 is 36%, slightly under, but roughly 36% of the gross income. So that 36% of the gross income is a load to the toll lines, all costs would be met and an 8% of the value as a net return would be obtained. That would leave as a balance assignable to the localities where the money had been actually collected, localities where the money had been paid of 64%, which would be the proper proportion to allot between the toll lines and the local exchange.

Now, considering that from another aspect, that is, assigning 25% to the local exchange, that leaves 75% to go to the toll line property; 75% of the total income gross for 1919 amounts to \$3,500,600. The toll line costs are \$1,118,200. The balance, therefore, is net profit applicable to dividends or whatever purposes the company might determine, is \$2,382,400. Now, this sum is slightly over 34% profit on the present value, that is, 80% condition of \$8,600,000

book cost.

305 (By Mr. Howard:)

Q. So then, Mr. Lyndon, we have a property here engaged in a dual enterprise, one a local exchange, and the other handling long distance tolls. It is all used interchangeably, is it not, in these two

enterprises?

A. Necessarily, the local exchange and its apparatus, strictly local apparatus forms the terminal for the incoming and outgoing calls both, and furthermore, the strictly toll apparatus in the local exchange is a part of the equipment, the maintenance, depreciation and interest on which are all charged to the local exchange.

Q. And in addition to that, all parts and all lines are used in

initiating and terminating calls?

A. Yes.

Q. Now then, we find here that in the manner of bookkeeping, going to the manner of bookkeeping, and this company that operates all these properties, we find that this local exchange is showing a red figure where a black figure showing a net income should be, and the toll lines are showing 34% net return?

A. That is the case, if these initial figures as taken from the books are correct. As I understand it, the 25% just about meets the cost and I believe in 1919 it showed a slight profit. I

know, as far as we were able to determine in 1914 and in 1918, there was some loss due to the fact that 25% did not reimburse

the plant for all the expenditures it was under.

Q. So then, this plant, this local exchange here, in addition to performing the function of earning the amount collected from the local subscribers has also been instrumental in carrying out another enterprise which has been productive of a 35% annual net return?

Mr. D. A. Frank: On his scheme.

A. On these figures. The method of calculation is, of course, absolutely correct.

(By Mr. D. A. Frank:)

Q. You mean the multiplication is correct?

A. No, I mean, the method of reaching the conclusion. Now, if the initial figures with which the computation is started are wrong, the final conclusion—

Mr. D. A. Frank (interrupting): If a man would admit your premise.

Cross-examination.

Questions by Mr. D. A. Frank:

Q. Where did you get your figure of 3% maintenance?
A. Personal familiarity with pole lines.

Q. All right. How many pole lines are you familiar with?
A. I built a pole line 37 miles long.

Q. I know you did build a pole line 37 miles long, but how long did you operate it?

A. And I kept in touch with that line for about 6 years.

Q. While you were a consulting engineer you kept in touch with that line for about 6 years?

A. Well, I was in the practice of consulting engineering. Q. Well, in 6 years could you tell anything about what the maintenance would be in a line that had been es- for years and years, say 25 or 30 years, could you even draw a conclusion?

A. Yes, you could tell about what the maintenance would be. Q. All right, take the next one, depreciation. You take 8%

for depreciation, do you?

A. Yes, on the whole thing.

Q. And in the exchange you take 3%; why were you so generous to us as to give us 8% depreciation on toll lines and only take about 3½ or 4 per cent, on the local exchange?

A. Because the cost of your pole lines is made up of wooden poles.

Q. Wooden poles?

A. Yes, and cross-arms. Q. And they rot?

A. They do.

308

Q. Rot and fall down?

A. I don't know that you let them get that far, but they are attacked by rot and when they get to a certain point have to be replaced.

Q. Where do you get your two per cent. for taxes?
A. Taxes is more or less an estimate. It is assumed that the taxes paid are not on the basis of the actual costs of the property because they never are

Q. Well, don't you know that we have a gross receipts tax of

11/2%, the very first reel out of the box?

A. Well, that leaves 1/2% tax on the balance of the property. Q. Did you ever hear of a half a cent anywhere in the world? A. I didn't know you were subject to municipal taxes on your poll lines.

Q. We are subject to State and county taxes. A. You are subject to State and county taxes.

Q. Did you ever hear of 1/2% State and County taxes? A. If applied to the actual cost, 1/2% will actually cover.

Q. Don't you know that frequently the State and county taxes

are a lot more than 1/2 %?

A. Never heard of it. I simply know this; that the prop-309 erty I do know of that has been given in taxation in this state never has been taxed on the basis of its actual cost.

Q. And you didn't take into account anything on Federal income

tax either, did you?

A. Oh, no. Now, another thing is-

Q. (Interrupting.) That is another thing you throw out.

A. The 1½% on gross income taxon thing. The 11/2% on gross income taxes amounts to only three-quarters of one per cent applied to actual costs, because the gross income was only about half the cost to which these taxes were applied.

Q. What about operation?

A. The operation was paid for right here in the exchanges; what operation is there?

Q. You are certain now, for the whole state—is the operation

for the entire state paid by the local exchanges?

A. I understand the operation for the whole state is paid by the local exchanges.

Q. From whom do you understand it?

A. I don't understand that they can terminate anywhere but in the local exchanges.

Q. From whom did you get your idea?

Mr. Howard: Get it from Mr. Scott for one thing.

310 A. I got the idea from him that you must have an instrument to terminate, and I am unaware of a single instrument placed anywhere by the company for terminal, except inside of a

municipality.

Q. Did you know that in the City of Waco and in the City of Dallas we did not own the local exchange and in quite a number of other local exchanges in Texas we don't own the local exchange but that all of the-and that the operation is an expense for toll purposes.

A. I understood that in the City of Waco that was the condition

and I also understood-

Q. (Interrupting.) Did you know that in Dallas alone there was something line \$200,000 paid for toll operation?

A. I heard Mr. Scott say so.

Q. So your figure would be wrong by that amount, wouldn't it?
A. The figure would be wrong by that amount if it wasn't offset by somewhere else.

Q. Now, you have assumed that the toll property that is in the

books, that \$8,602,000 is now worth \$8,600,000.00?

A. Yes, a very high assumption.

Q. You have assumed a very high condition for that plant when you never saw a foot of it?

A. Don't have to see it at all. I know that nobody ever keeps them above that, or has ever attempted to, and if they do attempt to, it would impose an unusual and unnecessary burden. It would mean that every pole there, that the average age of those pole lines would be only about three years, of every pole on the circuit.

Q. For instance, this figure of \$8,602,000 has no central office

equipment in it at all?

A. Not at all.

Q. And yet in Dallas, and Waco, and Tyler, Denison and Sherman, Temple, McKinney, Texarkana and quite a number of other pretty good sized cities in Texas there are toll switchboards that are not included in here and still you calmly sit up there and make your figures on the basis that it is?

A. Are they included in there or not?

Q. They are not included in there, but they should be.

A. They should be included in there and the costs included in there before the conclusion is reached.

Q. So you have nothing in here for the property that is obtained in those exchanges—

Mr Howard (interrupting): It is your books we got those figures from.

A. That is what I understood it to be. I made the state-312 ment at the beginning that if these primary figures that were handed me as coming from your books are right, the conclusions are right. Now, if they are not, these final figures are wrong by just that proportion.

Q. Did you know that Mr. Kelsey went to Dallas on Sunday morning and left Sunday afternoon and in between trains asked to see certain statements and to take his figures down? Without asking any body about them?

ing anybody about them?

A. I didn't know about that.

Q. All of this is based on hearsay from Mr. Kelsey?
A. It is based on a written statement of what they are.

Q. Now, you have not included a cent in here for a general expense, have you?

A. General expense? You mean, the allocated charges?

Q. Yes, anything, the President's salary, or the General Manager's salary, or anybody else's salary.

Mr. Howard: I asked Mr. Scott to enumerate all the expenses that are allocated.

Mr. Scott: I never answered that particular question.

A. It has been my understanding that all the general expenses are allocated to the various exchanges.

Q. Well, a part of it could be allocated to the various exchanges and a part of it would be allocated to the tolls, wouldn't it?

A. Not necessarily.

Q. Is it your idea to do that by dividing it among the local exchanges and nothing go to toll?

A. I have nothing to indicate to the contrary of it.

Q. That's another thing growing out of your experience.

A. That has nothing to do with my experience as an engineer. I don't know what your heating systems are in your exchange at Dallas. That has nothing to do with it.

Q. But still you have the temerity to come here and make figures

on something that you don't know anything about?

A. No, that isn't true. In the first place it doesn't require temerity; it doesn't require the special ability to calculate.

Q. Just ability to put some figures in, just a mere sort of a mathematician?

A. Now, I qualified this whole thing at the beginning. I will state it to you again, that the method pursued is absolutely correct.

Q. In other words, your multiplication is correct?

A. No, the method; that if the figures with which I started are

incorrect or any of them are missing, that by that propor-

314 tion the conclusion is in error; that is all.

Q. Well, the same report that Mr. Kelsey examined from which he got this showed that the net telephone earnings for the year for the entire state were \$1,958,757.00. Do you think that we lost money in every exchange in the State and thereby made \$2.282,400 on the toll?

A. Mr. Kelsey's statement here which I have been using and that was obtained in the manner that I have subscribed, shows the net

receipts applicable to dividends, \$3,031,673,

Q. But you don't !- now whether that is correct or not?

A. Well, I simply know that they were handed to me as having come from the books. I accepted them as correct. I made this statement at the beginning, if they are correct-

Q. (Interrupting.) And you get on the stand and swear to what

Ketsey tells you?

A. I never made any such statement. I never intended any such thing. I made a perfectly clear statement of what it was based on and how it was obtained; all you have to do is to say that those figures are incorrect and give us the proper figures.

Q. You haven't got a single dollar in here for supervision of the toll lines, they are just going to operate themselves, just run without any officers or any persons to manage or control them, without any supervision whatever, not a dollar, have vou?

A. All the supervision that is necessary is supplied in the maintenance and depreciation account.

Q. Maintenance and depreciation is supervision?

A. You can't maintain them without supervision; nothing automatically goes and replaces a pole because it is worn out.

Q. Depreciation just happens and manages the plant-A. Depreciation just happens and manages the plant and every-

body else and you can't escape.

Q. If your figures are wrong in the elements I have mentioned, they are wrong

A. If they are wrong or in any one of them, the conclusion would be wrong.

(By Mr. Howard:)

Q. You recall when you were here before wanting a statement in regards to the tolls, the whole amount of the toll property and the operating expenses and everything connected with it; it was desired. Has there been any effort upon the part of this company, so far as you know to furnish that information?

Mr. D. A. Frank: I object to that as being as far fetched and as far away as anything could be.

316 (Argument of counsel omitted.)

Q. (Continuing:) Mr. Lyndon, Mr. Frank has gone along stating that several items of property were toll property that were not included, in that eight million and something. You know nothing about, the information that has been furnished does not indicate the correctness of those statements, does it?

A. No.

Q. There has been no books furnished to support Mr. Frank's suggestion in that regard?

A. None introduced here.

Q. Then from—they have made no disclosure from the books-

Mr. D. A. Frank (interrupting): He has not looked at any of the books.

Q. (Continuing:) —so far as you have known of, other than what has been furhished?

A. No, none that I know of, or that have come before me.

Q. You heard over a month or six weeks ago this line of inquiry pursued indicating that we were interested in knowing the toll values and toll expenses and toll operation.

A. Yes, I remember Mr. Kelsey's giving some testimony on that

subject, and of course I may state parenthetically—Q. (Interrupting.) You will rest upon this statement 317 then until it is disproven by the books?

A. Anything that the books will disclose that belong in a set up of this kind should be included in it and when I started reading this document, I started with that preface.

Q. They have not been discredited or refuted in any way by the books?

Mr. D. A. Frank: Why, I think that is a conclusion to ask this

witness to pass on his own testimony. A. Well, nothing has been introduced since this exhibit that

causes a definite and specific change in any factor. Q. Your attention has been called to nothing from the books that would cause you to change your testimony?

Mr. D. A. Frank: You don't seem to understand Mr. Lyndon is not the judge in this case.

(Argument of counsel omitted.)

Mr. Howard: I indicate to them now that the defendant in this case requests from the plaintiff the production of its books show-

ing its total toll value of every kind and description, no matter under what head located.

318 Mr. D. A. Frank: You mean for the entire world?

Mr. Howard: No, for the entire State of Texas, owned by the Southwestern Telephone Company, its statement of all toll revenues retained by the Southwestern Telegraph & Telephone Company of every character, no matter under what head or subdivision it may be set up on the books of the company. (c) All operating expenses of the toll lines in the State of Texas, both those that are separated and stating those that are allocated or included in the expenses, operating expenses charged to the local exchanges. (d) And all data from which may be computed the net earnings of the toll lines as distinguished from the local exchanges throughout the State.

Mr. D. A. Frank: Is that all? Mr. Howard: That is all.

Mr. D. A. Frank: Now, in reply to that we will say that we will furnish to the City of Houston any and all information that it desires on anything connected with our books at any time, but we don't agree for this case to be continued one single solitary

minute on account of giving them that information. This case has been proceeding now for several months; they have sent a witness to Dallas; they have sent witnesses to see our books in Dallas and in St. Louis and in Houston, and they have had ample time to prepare anything they want. We think that our position is certainly well taken for the reason that what he is asking him is entirely immaterial to any issue in this case. The issue in this case is first, what is the value of the property, used and useful, in serving the public in the City of Houston; second, what are the revenues and expenses in Houston; and third, whether or not the rates that have been prescribed by the ordinances of the City of Houston will be confiscatory of the company's property here in Houston. We take the position that the information being asked at this time, after the city has closed its defense,—

Mr. Howard: I haven't closed it.

Mr. D. A. Frank: You have closed your defense and got your witness back now in rebuttal.

Mr. Howard: No.

Mr. D. A. Frank: Well, let me finish, and then you can make all the statements you want to. After you have finished with your witnesses, you come in here and ask for information

which you know it is impossible for us to bring in, any books at this late day, without a delay; and we say that the only plain purpose of asking for the information would be for delay, because it could shed no light on the issues in this case, even if the figures put in by Mr. Lyndon were correct, which they are not; even if we had admitted that the toll lines were making 35% or 50% of 100%, it would still make no difference in this case. This case has been it would still make no difference in this case. put up by Mr. Lyndon in every conceivable form. He has put it on the basis of putting in 100% of the toll, and in allocating any of the toll plant to the city of Houston, and even then shows a loss, on one-third or one-half of your values in this city, shows a loss of over \$100,000.00, on the very best estimate that the witness makes, so that no figure which could be put in by Mr. Lyndon after such an examination could change the result in this case whatsoever. Mr. Lyndon on every assumption that he has made in this case, absolutely every assumption, has found that the company lacks a certain amount of getting a fair return. Therefore, we say it would be unfair to this plaintiff at this time to take any action, Your Honor,

that would cause a further delay. Now, I can't see the
321 object of it except merely to string out the hearing. We
have attempted to make a full disclosure here in spite of what
Mr. Howard says. We have tried to bring in with the fullest detail

both our plant inventory, our appraisals, we have done everything we could to make a fair disclosure, let the court have every bit of information, let the witnesses on the other side have every bit of information, furnished them with every figure they asked for, although there was no duty resting on us as a plaintiff in this case to give them everything. The duty resting on us was as a public service corporation in the City of Houston, the duty has rested upon us to furnish them, as a regulating authority, with all information, and we have been doing that for several years and are still willing to do that, but as a litigant in this case, the duty did not rest upon us to make out the defendant's case. The duty rested upon us to present the facts to the court fairly and squarely so that the court will know how to decide the case, but counsel has constantly made the statement that he thought the duty rested upon us to furnish them with information.

Therefore, I say, Your Honor, that no order ought to be made at this time that would in any way delay the final submission of this case to the court. What is the object of the informa-

tion you have asked for, Mr. Howard?

Mr. Howard: Now, we may be wrong upon this theory, but I think not, but now, we have undertaken to make proof and you have questioned Mr. Lyndon and attacked his testimony, because you say it is hearsay and an inaccurate statement from your books that he is basing it upon. Then I say that anything in that statement that we have set up either as a statement from your books, that you should not attack it, but you should supply it because the information is peculiarly within your control.

Mr. D. A. Frank: It is hearsay on hearsay. Mr. Howard: But, Mr. Kelsey has testified to it.

(Further argument of counsel omitted.)

Mr. Howard: I make this demand and insist on it.

323 Testimony in Support of Assignment of Error No. 3, Relating to the American Telephone & Telegraph Company's Service Contract of 4½%.

C. A. Gates, a witness for plaintiff, being duly sworn, testified as follows:

Direct examination:

My name is C. A. Gates, and I live at Pallas, Texas. I am Vice President of the Southwestern Telegraph and Telephone Company. I have been in the telephone business since the 7th day of February, 1885, having entered the business on that date.

I began as a night operator in the exchange of the Michigan Telephone Company at Saginaw, Michigan, and continued as night operator for a period of 3 to 4 months. At the end of that time I became what is known in these days as an inspector, really a repair

man and was evening chief operator working about fourteen hours a day. I continued in that position until 1887 when I went to Bay City, Michigan, as assistant manager. Saginaw had a population then of probably 30,000 people, and we had about 400 subscribers which in the state of the art at that time was a fairly good development.

As Assistant Manager at Bay City I had charge of the operating of the exchange, the accounting, the collecting of accounts, the relations with the general public, making of contracts for new service and connections, and installation and connection of sub-

scriber's stations and construction of the plant except on very large jobs, the employment and discharge of all employees, in fact I had the general run of the entire business of the company at Bay City and West Bay City. They were both then operated as one exchange although there were two central offices. That exchange had about 400 subscribers; the population was probably about 30,000 people, perhaps more. I was there until July '89, a matter of about two years. I was there until July '89, a matter of about two years. I was transferred from Bay City to Flint, Michigan, as manager and as manager at Flint I had practically the same duties that I had as assistant manager at Bay City, and in addition to that I had charge of all the property and business of the company within a radius of approximately 20 miles of Flint, including Lapeer, Holly, Flyle and Duran. Mr. Howard will recognize the territory. I was in Flint until January '91. Flint at that time was a city of nine to ten thou-The exchange, however, was only about 150 odd subsand people. scriber exchange.

I was transferred in January '91 to Jackson, Michigan, to an exchange of approximately 400 subscribers. I was manager of the exchange of Jackson, and while there I had charge of the long distance lines and the exchanges in the surrounding country of probably the same distance, say a square area of approximately 20 miles. I had charge of about the same matters at Jackson that I had at Flint

and Bay City. I had charge of the construction work and all of the business end in connection with the operation of the telephone exchange, except that in large construction jobs, where we rebuilt a very large part of the plant, we usually did it with a foreman from the Construction Department, from the General Department headquarters at Detroit; that foreman in a majority of cases reported to me, and consulted with me as to the details of the job, and the work was done in accordance with my wishes, under my directions.

I occupied that position until June '94, and was transferred to Bay City, Michigan again as manager. Bay City at that time had grown to an exchange of propably 600 stations. I was there only 16 days and I was transferred to Saginaw as Manager, an exchange then of about a thousand stations with a new building just built in which had been installed a new Brand Terminal Switchboard, which was the heighth of the art in those days, being the board that was exhibited in the World's Fair in 1893 at Chicago. As manager I

had charge of the operation, the maintenance and construction, except where very large jobs were done, as I have outlined in the case of Jackson, and had charge of the relations with the public, dealings with the city officials, in fact, the general operation and maintenance of the plant. I remained there as manager, and as manager had charge of the business in the surrounding territory, possibly for 20 miles in all directions with the exception of Bay City until 1899. In January of that year I was made General Superintendent of the

Eastern Division, and had charge of the northeastern section of Michigan, and all the business therein. That included everything from the Straits of Mackinaw, on the Canadian border down to and including the town of Clio, on the Pere Marquette Railroad about 20 miles south of Saginaw, and over to the shore of Lake Huron on the east, and about the center line of the state on the west; it included the towns of Bay City, Delfina, Cheboygan, Alma, St. Louis, Saginaw and many other towns that I might name. I remained there until December 1st, 1899, when I was transferred to Detroit prior to coming to Texas. I came to Texas shortly after the first of January 1900 to take up the operation of the toll lines or long distance for the Southwestern Company in Texas and Arkansas.

I was made Superintendent of Long Distance of the Southwestern Company in Texas and Arkansas, and as Superintendent of long distance service I made studies of the manner in which the business was being handled over the long distance lines, and later got up an operating organization, and had charge of the entire operation of that part of the plant. I also took up the engineering on toll lines, particularly with reference to the amount of business that could be handled over the lines, the circuits required and upon my recommendations changes were made in the plant from time to time. The person-el was under my charge. This continued up until 1902. In the summer of 1902 I was placed in charge of all of the traffic

of the company in the States of Texas and Arkansas which was all the territory operated by them, and with the title of 327 Traffic Manager. During that time I made numerous studies of the amount—on the operating methods having in mind particularly the improvement of the service, the economies and the welfare of the employees. I continued in that position until 1904 at which time I was made General Superintendent for the company. As General Superintendent I had charge of the operation and maintenance of the plant in every particular, that is to say, that all employees engaged in either operating or maintaining these plants, or dealing with the public were under my charge and all new work, that is all questions of additional plants originated with my department; the general methods of handling the business, were all under my jurisdiction, in fact, everything except the actual construction of the plant in a larger way was in my hands.

I occupied that position until October 1st, 1909 when I became General Superintendem of the plant. As General Superintendent of the plant I had charge of the engineering and building of all plants of the company in the States of Texas and Arkansas. Also the maintenance of the property, that included the purchase of lands, the building of buildings, in fact, all plants of every character were not only engineered but actually constructed under my super-

vision and the maintenance was entirely under my super-I continued in that position until the spring of 1912 when I was made General Manager of the Southwestern Tele-

phone and Telegraph Company.

328

I continud in that position in charge of the property of the company, having general supervision over all departments except the executive, until June 1917, when I was made Vice President. ing the time that I was General Superintendent of plant I spent for gross additions to the property something more than seven millions of dollars; during the period that I was General Manager I spent for gross additions to property more than fifteen and a half millions of dollars.

Q. Now, that construction work was done under superintendents

you had working under you, who did that?

A. Yes, sir; and that work was scattered all over the two States. As General Superintendent of plant-

Q. (Interrupting.) Mr. Gates, did you have occasion to make estimates and check estimates as to the cost of new construction and additions to the plant from time to time?

A. The detailed estimates were made and I passed upon every estimate that was made and approved or disapproved it. In order to do that I had to of necessity, to know something about costs and to be able to check the estimates. Every estimate covering the expenditure of more than a thousand dollars made during the period between October 1st, 1909 and June 1917 has my signature on it if it were approved.

Q. Now, during the time that you were General Superintendent and General Manager of the company, did you take an active part with reference to the construction of this new

plant as to the work was being done?

A. Yes, sir; I personally went out on many jobs. Houston, during the time that I was General Superintendent of the plant, the company spent over \$3,800,000 in the city of Houston in gross additions to the plant. Now, of that amount more than In the case of \$386,000.00 was spent on buildings and real estate; during that time we built the Preston Building located just across the street. I had the work done, I made it a point to be on the job, and go over that building every two weeks, if possible, and, I think, probably that I averaged a visit at least once every two weeks during the time that building was going up. Sometimes, perhaps, I was here every week, but in any event, either I was here or our engineer was here under my instructions, at least every two weeks during its construction so that very careful supervision was given to the erection of that building. The same thing could be said with the Hadley Building which was done under my supervision. A considerable portion of the plant constituting the Houston Exchange was constructed while I was in charge of the telephone business in this State for the Southwestern Telegraph and Telephone Company. I am very familiar

with the plant here, and during the time I have occupied the positions which I have enumerated with the company I have had occasion

to deal with inventories, or appraisals of telephone property.

330 During the time that I was General Superintendent of plant
we purchased more than two millions of dollars worth of
property, some of it I purchased directly, some of it I inventoried
directly; most of it, however, I had inventoried, but I checked those
inventories and passed on the values, and in some cases went out
and went over the property to see whether or not the inventories

On redirect examination.

and appraisements made were reasonable.

Questions by Mr. D. A. Frank:

Q. Do you know who furnishes the induction coils, transmitters and receivers, Mr. Gates?

A. The American Telephone and Telegraph Company.

Q. Do you know who makes the fundamental plants themselves, the various plants?

A. Well, the American Telephone and Telegraph Company and the Southwestern Telegraph and Telephone Company jointly.

Q. Do you know who owns the three or four thousand patents that are now standing on telephones and telephone apparatus?

A. Yes, sir, the American Telegraph and Telephone Company. Q. Do you know who makes the standards by which the plant is constructed?

A. The American Telephone and Telegraph Company. They also maintain an engineering staff that sets up standards for material, and tests materials in cases by request.

rial, and tests materials in cases by request.

Q. Well, Mr. Gates, for instance, take a little thing such as a pin on a cross arm; is it accidental that you use a certain kind of pin?

A. No, sir, it is the result of design.

Q. And how much study do you suppose has been given it? A. Well, there has been a great deal of study given to it.

Q. Well, have you had any experience with respect to the chang-

ing of the design of this pin?

A. Yes, we have, and we have had considerable experience in the use of different kinds of wood for pins, we have been guided by the engineering department of the American Telephone and Telegraph Company, have been guided in a way that has saved us a great deal of money, a great deal of cost.

Q. Well, take a plant, take the older part of this plant here in Houston—if it were designed to carry—well, give me the size, Mr. Gates, of a large conduit, about how many ducts would you have

in a very large conduit?

A. Oh, possibly sixteen or twenty.

Q. Well, now, on Main Street, about how old would you suppose—give me one that you have in mind, is there one there as old as ten years?

A. Yes, sir, there is one down in the lower part of Main street

built about 1907 or 1908.

Q. Now, at the time that that was designed, if it had sixteen ducts and each duct carried about one cable of two or three hundred pairs of wires, if it had not been for the advances made by the Amer-

ican Telephone and Telegraph Company in the art, that would

332 have happened now to those same ducts?

A. Would have had to tear up the street, and the chances are we wouldn't have enough room in the street to put in conduits, and necessarily would have had to put in fifty pair cables.

Q. And now you are using cables of how many wires?

A. Well, I think the largest in Houston is a nine hundred pair. That is the same conduit that was originally designed to carry a fifty pair cable.

Q. In other words, Mr. Gates, the capacity of that particular con-

duit has been multiplied by eighteen?

A. Yes, sir. Q. Through the work done by the American Telephone and Telegraph Company?

A. Yes sir, that is true.

Q. And with respect to other items of the plant, is the work that has been done by the American Telephone and Telegraph Company for the Southwestern Company equally valuable?

A. Yes, sir; as a matter of fact, it is more so.

Q. Even on the matters of the method of handling telephone

calls, have they assisted you in that way?

A. Yes, sir, they have done a great deal towards increasing the ability to handle calls; in fact, if it were not for the increased efficiency, the price, the cost of doing business, would have been very much higher than it is.

Q. Now, with respect to the accounting methods, do you know anything about whether the Southwestern company has originated

the accounting method that they are using?

333 A. All the accounting methods that are being used by the Southwestern Company were originated by the American Telephone and Telegraph Company and have been the result of a great deal of study.

Q. Well, what is the advantage, Mr. Gates, of having-what is the advantage that the American Company has over the Southwestern Company in respect to doing all this work, this engineering and ac-

counting work?

A. It has the entire telephone field in the United States to draw from for its experience, and it maintains and is able to maintain by reason of its size a large organization to study this stuff at all times and is able to give the operating companies the advantage of this knowledge and to coordinate the knowledge that its organization acquires from the various companies and distributed in such a manner that it is applicable to the local operating company.

Q. Suppose, Mr. Gates, you did not have this arrangement with the American Company, and some other company—say in Georgiagot hold of a new patent, would it be in a position to compel the Southwestern Company if it used that patent, to pay a royalty?

 A. Yes, sir.
 Q. Would that be true of all these patents that are controlled now by the American Company?

A. I think it would.

Q. If it would, is the instrument service worth anything to the Southwestern Company?

A. Yes, sir. Q. Just what is it worth? 334

A. It saves them buying and maintaining instruments. Q. And how many instruments can the Southwestern company

get from the American company for Houston?

A. How many?
Q. Yes, sir, can it get all it wants?
A. Yes, sir, it can get all it wants.

Q. Are the instruments that are being used in Houston of the very best type that is on the market?

A. There is not anything better that I know of.

Q. Is that one of the advantages of having the instruments fur-

nished by the American company?

A. That is one of them; and another advantage is that the instruments are uniform throughout the country and they work together in a way that different makes would not.

Q. Is that worth anything to the people of Houston, having them

uniform throughout the country?

A. I think it is worth a great deal.

Q. Are the people of Houston interested in the kind of instruments used in Dallas or New York?

A. Judging from the way they use the long distance service I would

Q. Well, all the improvements that are being used in the art are immediately available to the people of Houston, are they?

A. Yes, sir.

Q. And through this arrangement with the American company?

A. Yes, sir.

Q. In addition to the general work that is being done, Mr. 335 Gates, by the American company, for the Southwestern company in Houston, are there any special services ever performed?

A. Yes, very frequently.

Q. Just give us an example of some special service? Is the funda-

mental plant a part of it?

A. The fundamental plant is part of it; and if there is any special building, like the Preston building, for example, if we desire any information, any advice as to the best type of building to build, we can secure that information, if we desire any information regarding the best plan-the best method of building a conduit, we can get it. If there is some special condition comes up here whereby there is interference from high tension circuits, and we want special advice, we can secure it.

Q. Do you ever have the question of electrolysis up?

A. Yes, sir, and we secure very good advice and it saves a great deal of money on it.

Q. From whom do you get this service?

A. From the Chief Engineer of the American Telephone and Tel-

egraph Company.

Q. Well, suppose that you-I will change the question a little bit-I notice that in the set up of vehicles here you have nothing except Do you suppose that you consulted the American Telephone and Telegraph company as to what kind of machines you would use and whether or not you would use them at all, did you get their experience before you adopted it?

A. We got their experience, yes, and we acted upon the advice in the purchases of some of the types of cars. We got the experience of other companies throughout the country through the American Telephone and Telegraph Company.

Q. Well, in truth, Mr. Gates, is their engineering department avail-

able for any service of this character that you desire?

A. It is available for any service that we want, and it is the greatest clearing house for information regarding telephone service there is in the world today, there is not any other place that we could go and get the information, no matter what we paid for it, or what we were ready to pay for it; furthermore, there is no other place we could get it for the price that we get it from the American Telephone and Telegraph Company.

Q. Well, you have an engineering organization yourself, haven't

you?

A. Yes, sir.

Q. In this engineering organization you have capable of doing the work that is being done by the American Telephone and Tele-

graph Company?

A. No, because it has not the experience, it has not the time, the expense—we cannot spend the money to accumulate the necessary information, we cannot maintain the organization that would be necessary to get the things that we can get from the American Telephone and Telegraph Company.

Q. Have you ever seen the actual working of the instrumental

laboratories of the American company in New York?

A. Yes, sir. Q. Just roughly to-337

A. Not recently.

Q. How big a building is it?

A. Why, I don't know, Mr. Frank, I haven't seen it in several years.

Q. Well, there are a great many engineers devoting their entire

A. Devoting their entire time to research work, yes, sir.

Q. Do you know some of the things that they have developed that

the Southwestern company is using right here in Houston?

A. Yes; in fact, practically the entire plant that is being used here, in the central office apparata, has been developed and designed by them.

Q. What is hard drawn copper wire?

A. Hard drawn copper wire is copper wire that is drawn cold so as to get the strength in the skin of the wire.

Q. That means that it is drawn in such a way that the outside of

the wire is harder than the inside?

A. Yes, and it is tempered and becomes much stronger than wire

that is soft drawn.

Q. Prior to the time of the use of the hard drawn wire, Mr. Gates, what was the endeavor of the telephone companies to get wire that

could be used, and what success did they have?

A. Well, they had no success in trying to use copper wire, because copper wire at that time was soft, would stretch and sag and finally break, it is impossible to use iron wire for any-for any considerable distance because of the magnetic qualities of

the iron, through interlocking it made telephone conversa-338 tion over any considerable distance impossible.

Q. Weil, how far can you talk over iron wire?

A. Why, for commercial purposes it is used a distance of from 60 to 80 miles.

Q. How far can you talk over copper wire?

A. I don't think we have ever found the limit since we have had a repeater.

Q. If you did not have copper wire, could you talk from here to

Dallas over iron wire?

A. It would be very doubtful if you could. It couldn't be utilized

in commercial service.

Q. And that is one service that has been performed by the American Telephone and Telegraph Company for this company?

A. Yes, sir. Q. Well, you say practically everything about the plant has the same history, do you?

A. Yes, sir.

Q. Now, on the matter of finances,—you say you could not finance yourself without the American Telephone and Telegraph Company? A. I don't think we could get any money in Texas to build a

plant.

Q. I will ask you merely to state some of the financial services performed for the Southwestern company?

A. The Southwestern company requires a very considerable sum of money from time to time to extend its plant, and the financing would be practically impossible if it had to look to local forces

for the money. Money in Texas is expensive, interest rates are high—to my personal knowledge and to my sorrow I know 339 I know that on well secured real estate in the City of Dallas I am paying as much as eight per cent on some—eight per cent on some loans. I mean personally. And I know that in talking with bankers as to the possibility of borrowing money to use in different businesses in which I have been interested and am interested, outside of the telephone business, the security has to be good, and the rate is anywhere from seven per cent up. The Southwestern company, to begin

with, has to borrow in large sums, sums larger than the average

banker in this locality loans; if he did he would make the loanat least one banker in Houston told me that he would require a rate of interest that would be almost prohibitive-in fact, beyond what we could pay.

Q. On what, Mr. Gates?

A. On a note, to borrow money to put into your business, on the sale of stock.

Q. Well, would it be feasible——
A. On the sale of stock in this community in a public utility like a telephone plant I am told by bankers that eight, ten or even twelve per cent, could not be much of an incentive.

Q. That is, in a community like Houston it would be impossible

to float stock to do a telephone business?

A. Yes, sir. Now, we are able through our connection with the American Telephone and Telegraph Company to secure money on a six per cent basis for our extensions-in fact. 340 we have not been able to pay more than a five per cent dividend on our stock for several years past.

Q. Do you know what the money cost that the American Tele-

phone and Telegraph Company let you have?

A. I am not familiar, except in a general way with the later loans of the American Telephone and Telegraph Company, but it is my understanding that the last fifty million dollars borrowed by the American company cost them between eight and nine per cent.

Q. And they let the Southwestern have it for six?

Q. That was a part of the service performed under the license contract?

A. Yes, sir.

Q. Would it have been possible, Mr. Gates, to have built the plant that is now serving the people of Houston by financing it piece meal in the City of Houston?

A. I don't think so, I think it would have been an impossibility. Q. Well, just how would a man go about financing a piece of property like the Houston property if it had been built up just as

it has been built up?

A. Well, he would probably—if it had been built as it has been built, he would probably have started it with a capitalization of possibly half a million dollars; he might have sold stock locally through the bankers, would probaby have had to sell it at a discount and paid somebody to sell it for him.

Q. Well, with \$500,000.00 stock, how many bonds could

he sell?

341

A. It might be possible for him to sell bonds of an equal amount.

Q. He could not sell any more, could he?

A. Oh, he couldn't sell any more and he couldn't sell those at par, if the history of the other companies in this line of business in this state is any criterion; by the time he had the million dollars securities outstanding he would soon find himself in need of additional capital, and he would then be confronted with the question of refinancing.

Q. Couldn't he go out and sell more stock?

A. I think he would probably have to refinance the whole transac-

Q. There wouldn't be anything to prevent his selling stock if he

could find anybody to buy it?

A. Oh, if he could find somebody to buy it there would be no reason why he couldn't sell some more stock, but I think it would be very doubtful if anybody wanted to buy additional stock with the existing mortgage. - I think he would probably have to take up and refinance the whole transaction.

Q. Assuming, Mr. Gates, that he could find somebody to buy another half million dollars' worth of stock, so that he would have a million dollars' worth of stock and only a half million dollars of bonds outstanding, he could then sell a half millions dollars

more bonds, couldn't he?

342 A. If he could get—if he put his money into his property and got property that would be worth it, there would be a second lien, and he probably couldn't sell them at par on a basis with the original bonds, so what he would have to do in order to have first mortgage bonds absolutely, he would have to take up his first mortgage bonds and issue-

Q. Reissue? A. Reissue.

Q. Would there be any expense connected with refinancing it?
A. There undoubtedly would be.

Q. How do bond discounts run?

A. The one local company that I know of, that I happen to know of, to get through their first isue of \$500,000.00 the bonds sold at eighty.

Q. That was a first mortgage loan? A. First mortgage.

Q. What per cent did the bonds bear?

A. I think six per cent. Then a commission. I understand, was paid for the sale of the bonds.

Q. Why would there be a commission paid, Mr. Gates, if the

bonds were sold at a twenty per cent discount?

A. The man who bought the bonds thought they were worth only eighty cents on the dollar, and it was necessary to employ some financier to make him think that they were worth that much.

Q. What commission would a financier get for handling the

bonds of an isolated company?

A. I should judge that he would get anywhere from ten 343 to twenty-five per cent, depending on the circumstances.

Q. That would make the bonds net to the company not more than seventy dollars on the hundred dollars?

A. Yes, sir.

Q. Well, on the basis of selling bonds at seventy, what could he expent to get for his stock,-assuming that the stock would pay eight per cent?

A. I don't think he could sell it at par.

Q. He would have to take something less?

A. I think so; I do not think any eight per cent public untility stock in Texas would sell at par.

Q. Do the manufacturers and the industrial plants around Hous-

ton make more than eight per cent?

A. Yes, sir, according to the United States Census Bureau's re-

Q. What do they make, Mr. Gates?

A. In the year 1914, which is the last published report, they made 15.36 per cent.

Q. Is that the average for a great many of them?

A. That is the average for all industries in the City of Houston having an invested capital of more than \$25,000,000.00.

Q. Have you a list of those, Mr. Gates?

- A. Yes, sir. Q. Do you mean an invested capital of \$25,000,000.00 covers all of them?
- A. All the industries engaged in manufacture in the City of Houston.
- Q. Now, Mr. Gates, you say that the industries in Houston, 344 according to the Census Bureau of Manufacturers, in 1914, were making 15.36 per cent?

A. That is what the report would indicate.

Q. Would it be your judgment they are making more than that or less than that?

A. I should expect to find them making more than that,

Q. This was before the day of the so called profiteering, wasn't it? A. Yes, sir.

Q. Now, in financing a telephone plant, is it likely that any telephone plant located in Houston would ever make 15 per cent?

Q. In order to get money for a telephone plant, what would be the fact as to whether you would have to compete with those local industries in getting it?

A. I think we would have to compete with them-you would have to compete not alone with the manufacturing industries, but with

every line of business in which money is employed.

Q. Does this suggest anything with reference to the history of a great many local companies who have failed in the telephone business—this difficulty of financing?

A. I think it has been the rock upon which most of them have been wrecked, the business has grown faster than their ability to

finance.

Q. If the Southwestern company had been a local concern, without the arrangement that it has with the American 345 company, would there be any reason why it would not have to pay discounts that you have enumerated?

A. None that I know of, excepting that it might-it might so conduct its business, the management might be farseeing enough, look ahead of the game far enough, and not be caught quite as quickly as some of the companies.

Q. But over a period of 25 to 30 years, if they finance a long time in advance, what would happen with respect to the balances they would have to carry in the bank?

A. They would have to pay the price if they financed in advance.

it would increase the cost.

Q. That in itself would increase the cost of financing?

A. Yes, sir. Q. Then in your judgment state whether or not the arrangement with the American company as far as financing is concerned is of

great advantage to the Southwestern company?

A. I think it is of great advantage to the Southwestern company in fact, I doubt seriously if it would be possible for the Southwestern company to even approach its present size and its present ability to serve the public, without that service.

On recross-examination.

Questions by Mr. Howard:

Q. Mr. Gates, in detailing the multitude of benefactions that have been visited upon the Southwestern company by the American Tel.

and Tel. Company, you put first and foremost the matter of 346 these instruments you say they furnish you. What instruments are they you speak of?

A. The transmitter and receiver. I didn't put it first and fore-

most, Mr. Howard.

Q. I have it first on my list, so I thought— The instruments is a very small part of the total cost of the plant, but a very important one.

Q. Well, regardless of what it does, let's find out the value and

cost of these-what do you call them?

A. Transmitters.

Q. Transmitters? That is a little coil of wire in the receivers, some sort of metal mechanism?

A. Induction coil, transmitter and receiver are three articles furnished.

Q. Well, taking those combined, what would be the combined

value of those for the telephone?

A. I should judge—I haven't any present day prices, but I should judge that the present day cost would be something between four and five dollars.

Q. You have put most of them in there at a price of about a

dollar, haven't you?

A. They are not in the inventory at any price, Mr. Howard.

Q. But then that is about what they could cost in the old days when those things were being purchased?

A. We do not buy them. Q. You do not buy them?

A. No, sir.

Q. Well, assuming they would be worth a dollar, and you have, say, thirty thousand here-

A. I am not assuming they are worth a dollar. Mr. 347 Howard; they are worth four or five dollars at the present

market, to the best of my knowledge.

- Q. Would you say that within the time that this plant was being constructed-that is, the principal part of it-from the beginning, in 1914, 1915, that those things could not be purchased for around a dollar a set?
 - A. I would.
 - Q. You wouldn't say that-
 - Mr. D. A. Frank: They never were purchased for them.
- Q. Well, assuming they were worth four dollars a piece, and there are around twenty-five thousand-and that is \$100,000.00 for the American Tel. and Tel. Company?

A. There is no value whatever placed on those.

Q. I understand you do not get down to values, you go in for generalities. But I am trying to get you down to the earth and what we can figure we are getting for this \$40,000.00. If you assume the investment to be \$100,000.00, six per cent on that would be six thousand dollars, wouldn't it, Mr. Gates?

- A. What is the six per cent for, Mr. Howard? Q. I don't know whether Mr. Frank's laughs are signals or not, but if they are please disregard them and let's proceed.
- Mr. D. A. Frank: No, sir, I am just laughing at your evident unfamiliarity with the fundamental principles of a plant. Mr. Howard: Oh, yes, I understand-how you regard them.
- Q. We are wanting to get down to a basis of analysis. 348 Well, they are worth something, that would be a kind of way of getting at what the investment is-if the American Tel. and Tel. Company have got an investment in here, if you haven't an inventory, why, we could figure the legitimate return upon the investment, couldn't we?

A. Well, now, Mr. Howard, let me ask you what in your opinion would be the number of transmitters and receivers that would be necessary in this exchange of twenty-six or twenty-seven thousand?

- Q. I don't know; I am asking you how many sets would be necessary?
 - A. Set? There is more than one set for a station.

Q. There is more than one set for a station? A. More than one set for a station.

Q. You mean subscriber's stations? A. Yes.

Q. Well, why, and how many, that is what I want to get at?

A. You have got to carry a stock in order to take care of your increase in subscribers, to take care of your losses, and-

Q. How many increases in subscribers do you have in a year on the average? About a thousand, isn't it, in round numbers—been running around thirty thousand somewhere, that is a fair approximation?

A. No. I will tell you in just a moment what we have, in the

year 1919—there were more than five thousand new telephones put in in Houston during the year 1919.

Q. How many have you got in all now,-27,000 isn't it?

A. We had 27,000, in round figures, in October.

Q. Well, I said thirty thousand, that allowed a latitude of three thousand?

A. To gain one telephone requires the installation of more than one telephone, it requires the installation of more than two telephones.

Q. Well, let us have about how many in your judgment you have

been using here and keep on hand here?

A. Let me hear your question, Mr. Howard.
Q. About how many of those things a year——

A. How many of what things?

Q. Why, these things we have been talking about, you know what they are, don't you? If you don't, I can't explain it to you; we are talking about induction coils, transmitters and things like that, things that may be understood and referred to?

A. Transmitters, receivers and induction coils.

Q. All right, call it that.

A. I should judge you would want about thirty-three thousand

of them to start one exchange of this size.

Q. Yes? Thus, the American Tel. and Tel. Company buys from a plant that it owns, namely the Western Electric Company, and then furnished them to the people of Houston, or to the exchange here?

A. There is no value placed on the transmitters and receivers in

this reproduction.

Q. Oh, I understand there is now. We are talking about this four and one-half per cent now, we are talking about the great things the American Tel. and Tel. Company does for you.

A. But what the American Tel. and Tel. do it seems to me is immaterial; what those transmitters and receivers would cost you if you owned it and bought it and put it in this

exchange.

Q. Well, you say you take thirty-three thousand of them and give them an average of four dollars?

A. I said the value would be somewhere between four and five dollars. I should estimate it nearer five dollars.

Q. Well, that is the retail price?

A. That is the wholesale price.

Q. That is the wholesale price of the Western Electric Company?

A. I should estimate that the transmitter, receiver and induction coil would cost at least \$4.90.

Q. It is, if some independent company should buy them?

A. Isn't the situation you are in the same if you were going to buy these.

Q. No, we are talking now about the benefit to your operation expense?

A. It is true.

Q. And in your earnings that you set aside and pay over to the

American Telephone and Telegraph Company—we have gotten off this, we have just progressed a little, and we are not talking now about the reproduction of this plant; Mr. Frank has lead you from the proposition to the American Tel. and Tel. Company, which appears in disbursements in your annual returns. So, then, these, thirty thousand of them, you say are worth four and five dollars, but you do not know what the cost of manufacture is to the

company that is owned by the owner of this company?

A. No. sir.

351

Q. You do not know what they could be manufactured for?

A. I think that is immaterial, Mr. Howard.

- Q. Well, you are hardly a judge of that, Mr. Gates-there are a whole lot of things that I regard as immaterial that you have got into this record; that is just your opinion about that—and treated as Have you any idea as to the cost of manufacturing immaterial. those articles?
 - A. I have not.

Q. You have not?

A. If I would expect to buy them I would expect to go in the

open market and buy them.

Q. Yes, yes, but anyway, taking them at five dollars, that is around it, take thirty thousand and apply the rate of six per cent—that would be \$150,000.00?

A. That would be \$165,000.00, Mr. Howard.

Q. Mr. Frank has a quotation of \$4.80, but we will take the \$5.00 and treat them as retail. That figures out how much?

A. They are not treated as retail, we are going to buy them in

wholesale lots, \$165,000.00.

Q. Well, I mean where you buy them, where you get them usually, \$165,000.00 at six per cent is how much money?

A. Six per cent on \$165,000.00 amounts to \$9,800.00. \$9,750.00. Q. That is taking a little additional price on them, even to the user, and it is disregarding the manufacturing cost by a company

that is owned by the owners of this company. But that leaves 352 us now out of this thing about—something over \$30,000.00? A. But Mr. Howard, let me ask you, what is this six per cent for?

Q. That is the return on the investment they have got here.

A. I don't think six per cent return is really to be considered, in fact, I don't think six per cent return is a sufficient return to start with, I think an eight per cent return is the very minimum.

Q. Well, that is not a public utility corporation, is it—this Ameri-

can Telephone and Telegraph Company?

A. A public-you are putting yourself in the position of this company buying those instruments and operating them as a public utility, they are entitled to a fair return, and I think that return should be at least eight per cent.

Q. Well, I might differ with you about that, when the question of interest rate of eight per cent is considered. But anyhow, you just allow me that two per cent, because I have allowed you that five

dollars and lets go on. That leaves \$30,000.00-

A. But I am not willing to go on, Mr. Howard, because there are other things enter into it besides the rate of return—there is a depreciation in those instruments.

Q. You told us a whole lot about inventions—just be a little more specific, will you, and tell us what have they invented in late years

that this company is using?

A. Well, this figure you started to build up-

Q. But we have finished that.

A. No, I won't admit we have finished that.

Q. You can add eight, you can add fifteen if you want to, but I am building it up at the rate of six and we have arrived at that.

A. That is your basis and not mine.
Q. Well, give me your basis then?

A. All right. I would say that eight per cent return is a fair return with a depreciation charge of ten per cent.

Mr. J. D. Frank: That will be eighteen per cent.

A. With the cost of maintenance, that will be at least four per cent.

Mr. J. D. Frank: Twenty-two.

A. Taxes will be at least one per cent. There is twenty-three per cent instead of your six per cent.

Q. Well, that is your idea of the thing?

A. That is my idea from thirty five years' experience.

Q. You have got the \$40,000.00 in one item and you won't have anything left if you don't change it.

Mr. D. A. Frank: That is true, you do get it in almost one item.

Q. So now the parent company, that is operating all these things—we will just forget about the Southwestern for a minute, let's go back to the real owners of this utility, the American Tel. & Tel. Company are operating this exchange?

A. They are not operating the exchange, don't own the exchange.

Q. They own the stock?

A. They own the stock of the Southwestern company, or a

354 certain portion of it, which is set out in it, I suppose.

Q. Mr. Gates, if you organized a little company that owns a railroad and you were the owner of nine'-nine per cent of the stock, or ninety-eight per cent of the stock, and your son-in-law was the owner of two per cent or one per cent, you would consider yourself the real owner of that property, wouldn't you?

A. You understand, I couldn't transfer that railroad or any part

of it?

Q. I understand that, but you would be the one that was getting the profit, wouldn't you?

A. I would be getting my proportion.

Q. Well, we will put it that way—that that company that owns practically all the stock of this company is also the owner in that same sense of the Western Electric Company, that manufactures

these coils, and then it takes these coils which is manufactured through its associate company and its own child, and puts them down here at such a figure as it wants to charge,—and then you are basing all those computations without regard to what the instruments actually cost the company that owns all these properties?

A. Mr. Howard, the price that I make is the price that you could obtain in open competition with other manufacturers; there are other manufacturers in the market besides the Western Electric

Company.

Q. Yes, but you never do buy from anybody but the Western

Electric Company, do you?

A. But you are talking entirely about another thing, as I understand it? You are talking about what these instru-

ments could be bought for.

Q. No, I am not, I am talking about what the value of them is and what it costs the real owners of this company to put them in here, that is what I am driving at—they are operating these plants through a certain agency, the American Tel. and Tel. Company, through an agency known as the Southwestern Telegraph & Telephone Company, is operating this exchange; and the American Tel. and Tel. Company, through another agency, known as the Western Electric Company, are making these things; then the owner of the whole business takes one of the agency's products and brings it down here and has it used by another creature of its own, that it owns, then I am trying to get at the cost of these instruments to the real owner of the property. Now, you say you don't know anything about that?

A. I think the best evidence in that case is what you could buy

those instruments for in the open market.

Q. Well, there is no open market, because you have already testified that you buy all your equipment of this kind from the Western Electric Company?

A. But as I understand you, what you are seeking to do is to set up a transmitter and receiver, whether it is the one we are using

today or some other transmitter and receiver.

- Q. Oh, no. I am not, I am trying to find out what it cost the real owners of this property to put this service in here and get a proper return?
- A. I have said to you I don't know what it cost the Western Electric Company to manufacture these instruments, Mr. Howard.
- Q. So you cannot give me any set up based on what these things cost the Western Electric Company, which is a related agency to the Southwestern, the American Tel. and Tel. Company serving the purpose of the parent of them all,—you cannot give me any data on that?

A. I don't know what they cost the Western Electric Company.

Q. All right, if you cannot do it, that is all right. Let's talk about these three thousand inventions—I won't ask you to name all the three thousand, but name five or six of them?

Mr. D. A. Frank: He can name the three thousand. Do you want to ask any questions?

Mr. Howard: Yes, I guess so.

Q. Did you name them, Mr. Gates?

A. Do you want me to name three thousand? I can take the time of the court for the rest of the day.

Q. No, I don't want them all, but name me probably five or six

of the principal ones?

A. One of the principal things that applies to the City of Houston is the installation of switchboard cable by water proofing process. Without it, common battery service in coast towns would be almost an impossibility.

Q. Yes? All right.

A. Do you want me to go on any further?

Q. No, we will speak about that a little further. That you claim to be an original idea of the American Tel. and Tel. Company?

A. It was developed by the American Telephone and Tele-

graph Company.

Q. No other company, or no other scientific men in the United States knew anything about insulating wire except the American

Telephone and Telegraph Company?

A. That particular necessity—there were other people that knew something about it, but for that particular necessity or use the American Telephone and Telegraph Company designed that cable; it was first used in Corpus Christi, and I knew all about it because I was in on it, and I had the problem confronting me of how to operate a common battery switchboard in a moist climate.

Q. Well, that is one. What do you call that-water casing?

A. No; I said a waterproof insulated switchboard cable.

Q. Now, your contention is that had it not been for the American Telephone and Telegraph Company we would have been groping in ignorance on that matter today?

A. You might not be groping in entire ignorance on that matter, but you certainly would not have had it in the time that you had it.

Q. What you mean to say is—that they have gotten up a particular kind of insulation, waterproofing, that has been adopted by the Western Electric Company and therefore of necessity finds its way into use in the Bell plant?

A. Where it is necessary to use it.

- Q. Yes. All right. Well, what other invention—that is one, only one out of five or six?
- A. Probably one of the greatest inventions ever known to mankind is the repeater. That has made it possible for your citizens to talk over distances that they never dreamed of.

Q. The repeater? A. Yes, sir.

Q. Well, we can see very near all over this city, so we are not concerned about long distances. So let us confine them to inventions more suitable to the exchange. I will ask you this, Mr. Gates,

is't it a fact that you have no inventions that are protected by patents today except such as belong to long distance traffic?

A. Yes, we have a great many patents, hundreds and thousands

of them, that belong to the telephone apparatus in general.

Q. That are recognized by the telephone world as indispensible to good, first-class telephone service?

A. Yes, sir.

Q. All right. You have got now--what, you have got those inventions, you say, that are recognized and protected by patents—they are protected by patents, are they?

A. Yes, sir. Now, I am not saying that I have that many.

Q. You are not saying what? A. That I have it.

Q. That you have what?
A. That I have eight thousand patents.

Q. Oh, I am not saying it.

A. You are talking about, by the American Telephone and Telegraph Company?

Q. Well, I just naturally treat you and the Southwestern the

same.

359 A. Well, not the Southwestern company. We are talking about the American Telephone and Telegraph Company and

the Western Electric Company.

- Q. Well, I mean when I speak of you, I mean of course, the telephone works, the Bell telephone works, thousands of inventions protected by patents that independent telephone companies would regard as indispensible to the-
- Mr. D. A. Frank: Oh, he didn't attempt to pass on how indispensible they were.

Q. Well, indispensible to first class telephone service?

A. Oh, no.

Q. That is what I want to get.

A. You might on, Mr. Howard, and furnish telephone service at a considerably reduced expense, some of them might reduce their expenses, some of them might improve their operations, there is a difference in the grade of telephone service.

Q. Well, let me get your answer: You have those inventions pro-

tected by patents required by independent companies-

Mr. D. A. Frank: He didn't say "independent companies."

A. I don't know what the independent man might consider is absolutely essention. You night get an independent man up here at Conroe, where the subscribers are satisfied if they can talk at all, and you might get an independent man up here at Conroe whose

subscribers would be satisfied with any sort of telephone serv-360 ice-if the telephone worked once a week they would be satisfied—the telephone might be noisy, the sounds might be distorted-even the shape of the receiver, the shape of the ear piece affects the sound-and lots of people would be satisfied with it; I think I can produce an independent telephone man who would say

that a telephone that you couldn't even talk over would be satisfactory. I think you have got them right down south here—I was in Sour Lake in an independent exchange two months ago, and I tried to talk over the telephone that the local man, independent man, thought perfectly satisfactory and I couldn't talk over it.

Q. Well, you will find a great many people who say that they do not think the service in this town is just what it should be.

Mr. D. A. Frank: He didn't say anything about service.

Mr. Howard: Well, about a great many things.

Q. Now, as I understand you, you recede from your answer a while ago that—

A. Well, I didn't understand your question if I answered it that way because I wouldn't attempt to say what the other man's judg-

ment might be.

Q. Well, you have told me that, said you didn't understand that. Now, as I understand it, there is no invention that is absolutely—that stands out protected by a patent, that stands out as so generally

recognized to the proper and economic operation of the tele-361 phone that it is indispensible, that is protected by any Bell

patent.

A. I do not think there is any patent today that would absolutely prohibit anybody else from getting into the telephone business in some form. In other words, the basis patent expired some years ago.

Q. I see. Well, then, it is down to this: That you have patents, or the American Telephone and Telegraph Company—let me say,

"you" because it is so much shorter?

A. All right.

Q. That you have patents that in your opinion are much more adaptable than anything else in use, but there are other competing contrivances or equipment, leaving it to a question of judgment of you and operators of the Bell System?

A. Well. I think that there are—that they don't make it possible

to furnish better telephone service, they claim, without them.

Q. Yes, you think that?

A. Yes, sir.

Q. But there is nothing like—there are even inventions protected by patents that for a man to go into the business at all in fact he would have to have that invention and if he didn't get it he might as well stay out of the business?

A. Well, there are some forms of the telephone business that could not be gone into successfully without infringing on some of

these patents-and the rest too.

Q. Yes, that applies to the long distance to some extent? A. Yes,—and applies to local service in some forms, too.

Q. Yes, I think I understand about these patents, that you have quite a large number of them, and other contrivances, nearly a thousand, and it is a question of taste?

. Yes, some fellow might be satisfied to ride a mule and another

might want an automobile.

Q. Yes, I know you undoubtedly feel very kindly towards your own contrivances. Now you spoke yesterday about copper—hard copper wire. Did they invent that?

A. It was worked out in the laboratories of the American com-

pany.

363

Q. How long has hard copper wire been in use?

A. I think that the first hard drawn copper circuit of any consequence was strung between Boston and New York about 1886.

Q. Copper has been in use in the world a good deal longer than you and I have been here, hasn't it?

A. Yes, sir.

Q. Probably might go back to the ancients?

A. The ancients had a method of tempering copper.

Q. And they had a method to harden copper?

A. I think they did, I have read of it.

Q. So, there is nothing wonderful about making hard copper wire?

A. But nobody knew anything about it between the ancient history you are talking about and about thirty-five years ago.

Q. Now, that is useful especially in the matter of carrying on

very long distance conversations as I understand it?

A. Yes, but without copper it would be impossible to build and operate your local exchange.

Q. Oh, well, but you do not claim to have any patents on

copper, do you?

A. No. But I don't want to agree with you that copper is only used for long distance service.

Q. Is copper wire any more or better for local exchange than other character of wire?

A. It is better and-

Q. In what way better, and why?

A. Not only from the transmission standpoint, but it makes it possible to-vou can use a smaller conductor, and therefore get your wires in a smaller space; unless you could put these wires, say 1,800 of them, in a single duct today, as we are doing today, you couldn't string these wires through the streets

Q. All right now.

A. Just a moment, Mr. Howard. I would like to go through with it since you have asked me the question, I would like to answer it. Our conduits are limited in size, the room in the streets is limited, there are other things in the streets-for instance conduits, water pipes, gas light pipes, sewers, electric light wires, and if we had to use an iron wire, for instance, even though we could find some way to get around a lag due to the magnetic feature of it, we couldn't get that many wires in that conduit.

Q. Well, other companies have got the right to use hard rolled

copper wire, haven't they?

A. Yes, sir.

Q. Well, there is nothing particular about that?

A. But hard drawn copper wire is the result of the efforts of the engineering department of the American Telephone 364 and Telegraph Company.

Q. All right. I don't want to interrupt you, Mr. Gates, but I have some other questions to ask. Now, we have found out from the American Telephone and Telegraph Company that they get the Western Electric Company to manufacture some coils and bring them down here and put them in this plant, we have found out that they have gotten some inventions, but have competition, we have found that they are using hard wire. Now, you say there are a lot of engineering benefits that you have. Have you an engineer in this plant here, Mr. Gates?

A. Yes, sir. Q. Who is he?

- A. I don't know his name.
- Q. You do not know his name? A. Not of the Houston engineer.

Q. He is a resident engineer?

A. Yes, sir.

365

Q. What are his duties, what is he capable of doing?

A. His duties are to keep up with the growth of the plant, and to

plan minor extensions of the plant.

- Q. Minor? Well, why do you put a limit on him, why don't you give him a chance to grow and let him make some of these major extensions?
- A. Mr. Howard, the man who is here, he is a good man, but he does not have the opportunity to get the experience in designing plants that a man who covers a wider range of territory gets, more jobs of this kind.

Q. Has he lived here long? A. I don't know the man.

Q. Well, wouldn't he be in about as good position to know where the growth of this telephone system was going as a fellow who came down here from a fourteen story building in New York and went and registered at the Rice Hotel and took an auto and circled around this city for a while and came back and told you where you were going to put your plant?

A. As I stated to you, Mr. Howard, he has not the opportunity

to get the experience.

Q. Well, let's pass him up. You have got a bigger man up in Dallas?

A. Yes, sir.
Q. What does he do? He is a kind of State Engineer, or district engineer, isn't he?

A. Yes, sir. Q. Well, what does he do?

- A. He supervises the work of the local engineer and designs the larger portion of the plant.
- Q. And he casts his eye over about where the growth is going to be, and the extensions are going to be, doesn't he?

A. Just what engineer are you talking about now?

Q. I am talking about the Dallas engineer. What title do you give him?

A. Well, we have a state engineer.

Q. Well, State Engineer, he is quite a big man?

A. The State Engineer, he has charge of the physical prop-

erty.

Q. He doesn't know anything about the growth of the 366 cities, and cannot go into a city and know anything about where the telephone growth is going to or where you had batter put your extensions and things of that kind?

A. He knows something about it, but we have a commercial en-

gineer who specializes on that.

Q. All right. Now, we have two-we have got the little fellow here, and the big fellow in Dallas, and they both look over it. have you got any other engineer at Dallas, got any over-engineers up at Dallas?

A. Yes, sir, we have an engineer at St. Louis. Q. What is his title?

A. He is chief engineer.

We have struck the source then. Now Q. He is chief engineer. what does he do?

A. He passes upon the plans.

Q. Does he ever circulate around?

A. He supervises the work in a general way.

Q. Now, he supervises the work? He pays some attention to the growth of the city and whether you have got your plant located right and where you are going to locate the additions to it, he gives some consideration to that, does he?

A. Yes, sir.

Q. Now, we have got that thing looked over by three different men, all the way up; and now, to make it absolutely sure we are going to get some A. T. T. engineers to come down here from New York and tell us that it is par excellent,—is that the way this engi-

neer part is worked?

A. We might in some instances ask the A. T. T. for some 367 information. In the case of this building we have here the building plans were passed upon by the American Telephone and Telegraph Company and some minor changes were made at their suggestion; I personally took those plans to the Chief Engineer of the American Telephone and Telegraph Company and asked him for his opinion, because while I had built several buildings, I didn't feel that I had the same experience and the same broad knowledge that an engineering organization of that kind would have.

Q. Well, you didn't have, but you have this Chief Engineer up at St. Louis,-that is a pretty good sized city, and that is a pretty considerable man when he gets to be Chief Engineer of this entire South-

western system, isn't he?

A. That is very true.

Q. Why didn't you take the plans to him and get his advice?

A. We did take his advice on some things.

Q. But you are not satisfied?

A. But when I want to spend other people's money to that extent, I want to get all the advice I can. Q. You spent other people's money without getting the advice?

A. I got the advice before I spent it. I think it is a very common thing for people to go outside and get engineers.

Q. Why not have another, why not get one in Europe to overlook

this fellow in New York?

A. If there was a better engineer, and I had a lot of money to spend. I would hunt him up.

Q. And you might issue bonds to get the money, too, might

you not, Mr. Gates?

A. I might.

Q. As the exchange rates are raised, why you can keep going?

A. What is your question?

Q. Who is the chief engineer in this fourteen story building up here in New York?

A. I don't know anything about any fourteen story building.

Q. Who is the great controlling genius up there?

A. You mean the Chief Engineer?

Q. Well, I don't know. I mean the man that has got all this knowledge,-he may not be the Chief Engineer.

A. Well, it is not confined to one man, Mr. Howard.

Q. Well, then they employ men all over the country—if one should happen to resign, they would send down to Dallas or Houston and get one, is that the idea?

A. Well, a few years ago I had occasion to get into a chemical analysis of some creosote oil that we were using to treat poles-

Q. Did you take it down to this man on Main street? got one up in Dallas, haven't you?

A. I had a chemist in my employ at that time, but the analysis was such that I felt that I wanted further information.

Q. And you did not stop until you got to New York?

A. I sent a sample to New York, and I found that at that time there was a man connected with the University of Texas who was employed on the staff of the Chief Engineer of the American Telephone and Telegraph Company-

Q. Well, all right, there now, we have gotten along—the coils, patents that are not protected and some other things,

and those engineers,—and finally they got our money for Now, let's see, let's take a sort of view of this situation, Mr. Gates: You have got a big concern up here called the American Telephone and Telegraph Company, it is operating a plant down in Houston Texas, and in other places-

A. Not operating a plant in Houston, Mr. Howard.

Q. Well, it is the owner, anyway. A. No, it is not the owner.

Q. It owns the company that is operating the plant?

A. It is the owner of the stock, a portion of the stock, as set out in this testimony.

Q. Well, all right, we will say the owner of the stock-it is the owner of all the stock, practically all the stock, which is practically the same thing as being the owner?

A. No, it is not practically the same thing.

Q. Practically the owner of the operating company that wants to

make some money operating the telephones, and being the owner of all the stock, all the profit that comes from this operation goes back through the conduit called the Southwestern Telegraph and Telephone Company, to the source, the American Tel. and Tel. Company, they have got that interest to look after and subserve and keep up. Then up here in Indiana or Illinois—they have got another concern, another conduit known as the Western Electric Company, that is manufacturing a lot of equipment where, under an arrange-

ment, it gets all the profit upon the equipment bought by this operating company. Now, it has got these two sources of earnings, and income to promote. Now, that particular company that was in the manner I have detailed, the owner, or owns, the stock of these two concerns, finds that it is necessary to get some money to keep this operating company going, and then by taking its own money and putting it down here, lending it to itself at six per cent, you think that it is doing a great service to the people of this city not to charge them bonuses and commissions, or prevent them being charged bonuses and commissions, and thus keep the interest rate from being run up to nine per cent?

Mr. D. A. Frank: Mr. Howard, you have made a long speech now. Now, what is it you want from this witness?

Mr. Howard: Were you confused by it?

Mr. D. A. Frank: Yes, sir.

Mr. Howard: Well, the witness has not expressed any such confusion, it had not occur-ed to him up to that moment, it may have occur-ed to him now.

A. Mr. Howard, I was just about to say that I thought you were making a statement.

Q. Oh, yes, your mind was just a fraction behind Mr. Frank's?

A. No, I am a slower talker.

Q. Well, what have you in mind as to what I said?

A. I have listened to you make a certain statement that I do not know to be a certain fact.

O. Well, does this statement penetrate in your mind?

371 Q. Well, does this statement penetrate in your mind?
A. The statement penetrates in my mind as I understand it, I don't know that I understand it.

Mr. Howard: Well, Mr. Stenographer, read that long question back.

(The reporter referred to his notes and read the question back as above appears.)

Q. Do you think under those conditions that it is doing this utility here a great service and that that is a thing that should be paid for?

A. But those conditions are not the facts, as I know them.

Q. Well, which ones are not facts? Let's get down to them.

A. All the stock you say is owned by the American Telephone and Telegraph Company—all of the stock of the Southwestern Company. That is not my understanding.

Q. Well, what is your understanding?

A. My understanding is that there is some stock not owned by them.

Q. How much?

A. I don't know off-hand.

Q. Just one per cent?

Mr. Powell: The exhibit shown here is 99 1/40 per cent, I think it is.

A. The exhibit shows. All the profit does not go to the American Telephone and Telegraph Company, because they do not own all the stock.

Q. Don't own all the stock?

A. The Western Electric—they don't own all the stock, you made the statement they owned all the stock.

Q. I hardly thought so,—we will modify that.

A. That is what the stenographer read, and you have got it they

own the stock of all these interests.

Q. Well, they own or control a majority of the stock-the West-

ern Electric Company?

A. Now, let me ask you a question, Mr. Howard: Aren't you asking me this: Don't you think that there is some benefit to the people of Houston by reason of the fact that the Southwestern company can borrow money from the American company at the rate of six per cent rather than pay nine per cent?

Q. I didn't ask you that.

A. That is my understanding of your question.

- Q. Well, if you don't understand it then we will let it go, it has been read back to you twice.
- Mr. D. A. Frank: That just illustrates, Your Honor, the unfairness of Mr. Howard's question. I think Mr. Howard has the right to make statements, and we do not object to his making statements, and we do not have to agree with them. These long and involved questions that Mr. Howard is constantly injecting into the record I consider to be unfair, because———

Mr. Howard (interrupting): Well, we can answer the question

if he wants to, it is up to him.

A. I have answered the question as I understand it, Mr. Howard. Q. Mr. Gates, isn't it a fact that the independent companies all

over the United States treat this American Telephone and
Telegraph Company's service of four and a half per cent as
a joke?

A. No, sir.

Q. And they all treat it and all talk about it as a rider that is im-

posed upon the Bell properties?

A. I heard the witnesses testify—I heard a witness testify in one case in this state in which he made the statement that as Assistant General Manager of that company, that he considered his contract with the American Telephone and Telegraph Company one of his most valuable, if not his most valuable, assets.

Mr. D. A. Frank: That was a company not controlled by the-

A. That was a company not controlled by the American Telephone and Telegraph Company.

Q. Is it absorbed vet?

A. No. sir.

Q. Has not been absorbed?

A. Not to my knowledge. It had not been a few weeks ago. Q. That is all. Do you know whether it is under process of absorption?

A. No, sir.

Q. You do not know then?

A. I do not know that it is, or that it is not I believe it is not.

I think it is an independent outfit and remains so.

- Q. Now, just come back and bear some upon these coils. Isn't it is fact that up to the year 1917 that the Western Electric Company would go out into competition with other manufactur-374 ers to sell to independent companies and would sell at a
 - price under what they would sell to the Bell companies? A. I don't know it to be a fact, and I don't believe it is a fact.

Q. You do not know it to be a fact, never heard of it being a fact?

A. No, sir. But on the contrary I have heard independent people tell me that they could not buy as cheaply as we buy.

Q. That if they did not start out in a campaign of that kind, to destroy all competition by underselling even the price the Bell companies paid them?

A. The Western didn't start out to undersell all competition at a lower price than was paid by the Bell Company-is that the ques-

tion?

Q. Yes, if they did not start out to destroy the competing companies, manufacturers by underselling them, and selling to the independent companies at a lower price than they were selling at the time to the Bell companies?

A. I don't know that they did; in fact, I am quite sure they did

not.

375 FREDERICK LELAND RHODES, a witness for Complainants, being duly sworn, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. What is your name?

A. Frederick Leland Rhodes.

Q. Where do you live, Mr. Rhodes?

A. In Short Hills, New Jersey, about 20 miles from New York City. My office is in New York City.

Q. What is your occupation? A. Telephone Engineer.

Q. For what company?

A. The American Telephone & Telegraph Company.

Q. How long have you been connected with the American Telephone & Telegraph Company?

A. 28 years this coming June.

Q. I wish you would state, Mr. Rhodes, just what our experience

and training have been from an engineering standpoint?

A. I was graduated at the Massachusetts Institute of Technology, in 1892, receiving the degree of Bachelor of Science and Electrical Engineering. I immediately entered the employ of the American Bell Telephone Co. and have since been continuously in the employ of that company and its successor, the American Telephone &

376 Telegraph Co. My early work was assisting more experienced men and I had to inspect and become familiar with telephone appliances and construction in many parts of the United States. My work covered various parts of the telephone plant, such as underground conduits and man-holes, underground aerial cable, pole lines and other appurtenances and wires, and to a considerably less extent, however, buildings, central office equipment and sub-station equipment. In 1905, I was placed in charge of the section of the engineering department of the general engineering staff having to do with the development and standardizing of telephone engineering materials, apparatus and practices, covering the outside plant of the Bell System. In 1909, I was appointed outside plant engineer, continuing to be responsible for the development and standardization of all materials and methods recommended for use in the outside plant of the Bell System. That work covered the preparation of literally hundreds of specifications, setting forth in full detail the requirements to insure the best results. It has covered a vast amount of study, research, laboratory experiments, field trials and tests, both of a physical and chemical nature. It has in brief covered the development and standardization of plant construction and to some extent maintenance standards. It has included important improvements in the design and efficiency of cables, work on the economical basis of planning and designing telephone outside plant, the relations between the telephone plant and high tension transmission wires, and it has involved a constant examination of new ideas, wherever

they may originate, pertaining to my end of the work. In 1919, for the purposes of more efficient administration, there was a separation of the development and engineering functions, two departments were created where there had formerly been one. One of these is known as the Department of Development & Research, and the other as the Engineering Department. I am now associated with the Department of Development and Research and have the title of Outside Plant Development Engineer.

Q. Well now, on your work of standardizing materials, you spoke of that work being carried on for telephone materials, that is for the

United States as a whole is it, the Bell System as a whole?

A. For the benefit of the entire Bell System.

Q. Not only for the American Company but for all your associated companies?

A. Principally for the associated companies.

Q. Now, are you connected with any engineering societies or committees at the present time or have you been connected with them in the past?

A. Yes. Q. Will you state what they are?

A. I am a Fellow of the American Institute of Electrical Engineers. The Institute has three grades of membership, associates, members and fellows. For four years I have served on the Board of

Examiners of the Institute and I have been Chairman of that board for two years. In 1916 I was Chairman of the Telegraphy and Telephony Committee of the American In-

Telegraphy and Telephony Committee of the American In-I am a member of the committee cooperating with the United States Bureau of Standards formulating the National Elec-I am a member of the American Electrolysis trical Safety Code. Committee. In the past I have been Chairman of a Telephone Committee and operate with the Bureau of Valuation of the Interstate Commerce Commission in the formulation of methods for inventorying telephone properties. I have served on a Committee of the Railway Telegraph Superintendents Association for the purpose of standardizing methods of telephone construction crossing steam rail-At two different times I served on the Overhead Line Construction Committee of the National Electric Light Association cooperating with the electric light engineers in standardizing methods of joint use construction between telephone plants and electric light plants and dealing with the requirements that should be followed in constructing high tension lines where they cross over telephone I have been a member of the National Joint Committee on Overhead and Underground Line Construction, Chairman of one of its sections, and I have served on a subcommittee of the National Fire Protection Association, dealing with the subject of high tension crossings.

Q. Now, Mr. Rhodes, are you familiar in a general way with the services which are rendered the Southwestern Tel. & Tel. Company by the American Telephone & Telegraph Company under the license

contract?

A. I am.

379 Q. I wish you would please outline briefly what the general staff of the American Telephone & Telegraph Company consists of, and the nature of the services rendered by it to the South-

western Telegraph & Telephone Company?

A. I should like with your permission to begin that answer by stating that the Southwestern Company is what we term an "associated company" of the Bell System. Each of the local or associated companies throughout the United States operates within defined territory and cooperates with the others so that by means of all the companies together and by means of the lines and system of the American Telephone & Telegraph Company, a comprehensive standard, uniform and universal telephone service is rendered throughout the United States. The American Company renders to these associated companies certain services under a license contract, which has been in existence since the early days. These services

are continuous and continuing and have been from the beginning of the business. They may be described generally as those services which are rendered directly by the large central organization, known as the general staff, which is maintained by the American Company for the benefit of the associated companies. The general staff consists broadly of the general administrative officials of the American Company, the Department of Development & Research, the Engineering Department, the Comptroller's Department, including the Accounting and Financial Departments, the Legal and Patent

Department, and the Insurance Department. With these services are those resulting from the relationships which the

American Company has established between all of these different departments of the general staff and the corresponding departments in all of the associated companies and the Western Electric Company, which does the manufacturing of the Bell System. Another branch of the service consists of furnishing telephone instruments to the associated companies, including the Southwestern Company and developing and improving these instruments and the transmission of speech thereby.

Q. Those instruments are furnished to the Southwestern Telegraph & Telephone Company for use in this local exchange here in

Houston, are they not?

A. Yes.

Q. All right, go ahead.

A. In connection with those services, I should like to point out that they are of an advisory and consulting nature. There is no line of authority between these General Staff Departments and the corresponding departments in any of the associated companies. An official of an associated company by a close and constant touch with the General Staff Department which has under its jurisdiction the particular functions with which he is concerned, keeps himself always informed as to the best methods and practices in his branch of telephone work and receives a great deal of advice but his specific instructions come to him from the executive officers of his own associated company.

Q. That is, the engineers and officials of the American Telephone & Telegraph Company have no direct jurisdiction over the men out in the field, that is, the engineers of the

Southwestern Telegraph & Telephone Company?

A. That is right.

Q. They get their instructions from the officials of the associated companies rather than from any of the officials of the American Telephone & 7 and Company?

A. Yes, sir.

Q. Now, have you prepared a diagram outlining the nature and scope of the services that you have just referred to?

A. I have.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 61.

(The paper was thereupon received in evidence, marked "Plaintiff's Exhibit No. 61, Witness Rhodes," and is filed herewith.)

Q. Now, will you explain this, Mr. Rhodes?

A. This diagram shows on a single sheet the subdivision of these general departments of the General Staff and outlines very briefly the principal functions of each of these departments, beginning at the top of the sheet and there is a subdivision into advisory, consulting, financial and general services, which with its subdivisions includes the greater part of the entire sheet. In the upper right hand portion is a brief outline of the instrument services. Now, passing

from the subdivision of the advisory, consulting, financial and general services, at the left hand side of the diagram is an outline of the functions of the Legal Department. The Legal Department furnishes to the associated companies prompt advice on any special points by means of experts on all local subjects

relating to the telephone business.

Q. Did you see me up in New York getting some information in the last few months?

A. I remember seeing you there.

Q. The attorneys of the Bell System throughout the United States have taken advantage of the Legal Department of the American Telephone & Telegraph Company?

A. I see them frequently when I have occasion to be in the por-

tion of the building that the Legal Department are.

Q. You see the General Counsel of this system up there frequently, do you?

A. Yes.

Q. All right, go ahead.

A. The Legal Department also issues to the Legal Departments of the associated companies a daily bulletin of current court and commission decisions. It issues monthly what are known as "Commission leaflets," giving more complete information in regard to cases. It provides a digest of commission laws, compilation of the statutes of each state relating to telephone companies and maintains a library of records and briefs in all important cases. The next department which I have outlined is the Insurance Department, and

briefly, it is concerned with furnishing advice so that buildings may be constructed to best promote safety and re-

duce fire risk. It provides standards for the inspection and maintenance of these buildings and makes periodic inspections of them. Next I have shown, bracketed together: the Department of Development and Research and the Engineering Department. The Department of Development and Research is charged with the duty of conducting experiments and tests to develop and advance the art of telephony, and making known its results to the associated companies. It also deals with the manufacturing branch of the system in the development of apparatus. The Engineering Department, which works in the closest of cooperation with the Department of Development and Research is concerned with furnishing the best advice to the associated companies in specific engineering

matters involving the application of these standards to the plants of the associated companies. The next department which I have shown is the accounting department and beyond that the Financial Department, and I understand you have another witness on that subject?

Q. Yes, sir.

A. So I will not go into that at this time. Under the Department of Development and Research and the Engineering Department are shown the principal headings of the work done, and I take it you will want me to describe those in greater detail after this so I won't refer to it any more at this time.

Q. Yes, sir, that will be all right. Now, all of these depart-384 ments are rendering services to the Southwestern Telegraph

& Telephone Company just as they render service to all the telephone companies throughout the United States?

A. That is the case, yes.

Q. Some of these services you will describe more in detail later when I call your attention to them?

A. Yes, sir. Q. Now, Mr. Rhodes, can you tell us what was the origin of the

furnishing of these services, or how it came about?

A. It has been a matter of natural evolution, growing out of the character of the business. I would like briefly to picture the situation of the telephone art at the beginning. At that time, there was no science or art of telephony. All that came from Professor Bell who invented the telephone was a fundamental idea. developed in order to serve the public and the present organization is a natural outcome and not an artificial one for furnishing these At the beginning, the American Company didn't have a completed thing to sell or to license the right to use. Except for these first crude instruments of Prof. Bell's, the apparatus necessary to render telephone service had not been invented. no switchboards, no call bells and none of the thousands of parts that now enter into the telephone system. A license at that time to use the telephone would have been of small value if it didn't cover improvements when they were made. Otherwise, the license would have been hampered when new instruments or apparatus was invented on account of the fact that the art and science

of telephony has always been in a state of active development 385 from the licensee's point of view. It was necessary for the license contract to be permanent. The licensee could not have afforded to have let his license terminate and be deprived of the right to use these new things as they were developed and used. associate companies naturally came to the American Company for technical advice and assistance, and the American Company

naturally furnished it.

Q. Now, you spoke of the associated companies coming there: You mean by that the companies that were associated with the Bell Telephone Company at that time?

A. Companies like the Southwestern Company.

Yes, sir. Well now, in the early history of these telephone

companies, the American Bell Company didn't have anything to do with them other than leasing these instruments, did it?

A. And furnishing these services which have been going on ever since I have been connected with the business and increasing from

time to time.

Q. As they leased these instruments, the persons to whom these instruments were leased naturally came to them for advice and assistance in connection with the operation of the instruments and assistance?

A. They did. Now, the furnishing of this technical advice and assistance has required a staff of technical, skilled men, and as the telephone art has grown this staff has grown and as far as we can see it must continue to grow until the art reaches the end of its

development, which I believe is a long way off. I think when 386 the right has been granted to use them-was granted in Texas, and like right- were granted all over the United States, if at that time the American Company had stood back and told each company in the field, to develop the art for themselves, that there is no question but what the result would have been failure and chaos. think that the furnishing of these services by the centralized organization has been clearly the best and most efficient and economical way of making the Bell invention useful to the public. The associated companies under this arrangement haven't been required to undertake broad technical development and research, because the Engineering Department of the General Staff has done this work for them. It has always been the duty of this technical department to follow up, investigate and test any technical ideas, and to develop and make simpler for application in the business everything necessary to enable the associated companies to furnish the best and most satisfactory service to the public. I have here a copy of a letter written by Mr. Vail, who is now Chairman of the Board of the American Company. At this time he was the General Manager of the National Bell Telephone Company, which was the predecessor of the American Company, to Mr. Pope, who represented the associated company in New York City. This letter was written in 1879 and, I think, is of interest as showing the principles which were established at that very early date in the business and which have still continued. If I may, I will read it.

387 Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 62.

(The letter was thereupon received in evidence, marked "Plaintiff's Exhibit No. 62, Witness Rhodes, and is filed herewith.)

Q. (Reading:) "Before putting in any exchange or starting in or even planning for a central office system, I think it would be well for you to consult thoroughly with Mr. Watson (Mr. Watson, by the way, was Professor Bell's assistant), and examine minutely into our standard system for central office connections. What we want to do in every case is to adopt the best system, and that we think we have.

388

Then if there is anything better we should of course want to adopt that. Please let me hear from you in regard to this." I would like to say that this work of constantly seeking for the best in giving telephone service has continued throughout my connection with the company and it is a work that requires all of the time and effort of many highly trained specialized experts. It makes no difference where an idea comes from, whether from the General Staff itself or from an associate company, or from outside of the Bell System, our General Staff takes it up, develops and tests it. If it is worthy it is made standard and available for the use of the whole system. adopt good ideas, whoever originates them. The important thing from our standpoint is that they should be available for the

entire Bell System whatever there is in the art of telephony that is good from whatever source it may come. To that end, one phase of our work consists in bringing together all ideas, good, bad and indifferent, eliminating as the result of our engineering study the bad and the indifferent and making the good available for the entire system. When rights under patents that are owned by others are needed, we seek to acquire these rights for the use of the entire Bell System. I would like to say that the ideas and suggestions that come to us from outside the department, almost never come to us in completed form. A suggestion or an idea is not in itself anything that anybody can order or purchase. It must be developed and made available for giving service. And what I have in mind is that an associate company has got to order a definite type of cable or of spring-jack or of coil and the apparatus must be wired up in accordance with a definite circuit. Or, all the various parts and components of the equipment must fit in with each other and cooperate in the result of giving good service. You can't have substation equipment planned on one basis and the face of the switchboard planned on another basis and the cord circuits on still another basis and the terminal equipment on some other basis, all of these parts of the equipment cooperate in handling even the simplest local It must be designed, arranged, installed and operated with reference to such operation. This requires the reduction of ideas to

definite concrete form and their embodiment in specific ap-389 It has been our experience that this requires in general painstaking and protracted work and development skill of a high order and this is what our general engineering staff does for all of the associated companies.

Q. Well now, are your activities in assembling these ideas and

securing these patents confined to the United States alone?

A. No, if we find anything that comes from abroad, from Europe or any other part of the world, we follow that up. We endeavor to maintain close touch with scientific development all over the world.

Q. Now, I believe you stated you were a member of the Depart-

ment of Development and Research?

Q. And that the Engineering Department works in cooperation with your department?

A. Yes.

Q. Now, will you describe briefly the work done by this Depart-

ment of Development and Research?

A. I can help to make that clear by showing you organization diagrams of these two technical departments. I have here the organization chart of the Department of Development and Research.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 63.

(The diagram was thereupon received in evidence, marked "Plaintiff's Exhibit No. 63, Witness Rhodes," and is filed 390 herewith.)

A. (continued). This department is in charge of one of our officers, Col. J. J. Carty. There are five main divisions, the one at the left hand side of the sheet being concerned with organic development. Next is the research engineer who is dealing with advanced questions involving mathematical physics. At the middle of the sheet is shown the Outside Plant Development Section, of which I am in charge. Next is a section dealing with electrical interferences from electric light and power lines upon the telephone service and at the right hand side is another section dealing with transmission development. Under the term "transmission," we include those problems which deal with the loudness and clearness of speech transmission. Each of these specifications is further subdivided according to functions and I think that the headings given on this diagram are sufficiently clear to be self-explanatory.

I have another diagram dealing with the organization of the

Engineering Department.

Mr. J. D. Frank: We desire to offer that in evidence as the Plaintiff's Exhibit No. 64.

(The diagram referred to was thereupon received in evidence, marked "Plaintiff's Exhibit No. 64, Witness Rhodes," and is filed herewith.)

Q. Explain that to us. 391

A. This department under the Chief Engineer is subdivided into an Outside Plant Section at the left; another section dealing with equipment and transmission matters; a section in the center of the diagram dealing with traffic problems and by the term "traffic" we refer to questions involving all phases of operating the switchboards. Another section under the Commercial Engineer deals with advice on rate matters and commercial organization and office management, commercial office management, and the section at the right is a section covering the clerical force of the Engineering Department. In general, the functions are more or less similar between these two departments, but there is no duplication between them. As of January 1st of this year, these two departments comprised a total of 550 employees, of whom about 275 are engineers and the balance are draftsmen, map workers and the stenographic and clerical force. These engineers of these two departments of the General Staff are not only highly experienced specialists in all branches of telephone engineering work but nearly every man is a graduate of one or more of the more important American Universities, colleges, or technical schools of recognized engineering and scientific standing.

Q. Most of your engineers are Americans, are they, Mr. Rhodes?

A. Yes, practically all of them. I might mention that at the time that this country entered the war, we were called upon to do a large amount of consulting and confidential work for the Army and Navy of the United States. At that time, it became desirable for us to look ourselves over to be sure that there were no account who might have affiliations.

no enemy aliens within the department who might have affiliations that would render them unfriendly. Of all our force, we found that there were only nine of foreign birth and there was only one who had been born in a country with which we went to war and he had been brought to this country as a young man and educated here and was a naturalized citizen. We had never looked into that matter before because we had picked our men with regard to getting the best men for the particular job but it was a sort of source of satisfaction to us to know that the telephone was not only an American institution, but it had been developed by a staff which is so thoroughly In connection with the training of these men, it can be American. said that there are 78 different colleges and universities represented by the men on our staff. Numerous of these men held advanced degrees and some have studied at foreign universities. Our staff from time to time retains in an advisory capacity outside experts who are skilled in special materials, processes or practices wherever the-re servvices will assist in the work that is done for the associated companies. For example, at the beginning of the work, we were confronted by what promised to be a very serious situation in regard to continuing the supply of paper which is used for insulating wires in telephone That paper has always been made of old manilla rope stock. cables. New manilla fibre doesn't answer well for the purpose. A

393 large proportion of the supply of that material had come from seaboard cities of Europe and with the beginning of the War in Europe, that supply was seriously interfered with. We were confronted with the proposition of what it would mean if the associated companies had been cut off from the ability to obtain proper telephone cables. We immediately started various lines of work looking toward conserving the supply of the available kind of paper in this country and we also undertook an extensive series of experiments to investigate what could be done in the way of substitutes for the kind of paper that we had been using before. In connection with that work, we retained Dr. Arthur Little, who is one of the best known paper experts in this country, and we utilized his advice in a number of prospective changes that we were studying in regard to the matter of alternative types of paper to use. We found that we would be able to maintain the supply of the kind of paper that we wanted, but all through the progress of the war, this development work was continued and it is going on now, and we hope never to get caught in a situation of that kind again where the next available material will not be ready. I mention this because it is typical of the class of work that we do frequently, that the associated companies know nothing about until it is done, not even that it is going on, unless they happen to inquire. Due to the war, there were many problems. The question of dyes that were used for coloring the paper in cables came up and we had to make extensive tests to determine the best

dyes that we could use as a substitute for those that had been 394 The same question came up in employed before the war. regard to the cores for loading coils that I will refer to later. other interesting question came up in that connection. Shortly before the Armistice, in anticipation of the advance of the American Expeditionary force, the Government commandeered all of the stocks of our No. 17 twisted pair outside distributing wire and took for the army the entire output of all the available manufacturers of that type of wire. That is the kind of wire that is employed by the telephone companies for drop wire, connecting the cable terminals with the subscribers' premises. We were very glad for the Government to have this material for the purpose it was to be used to drag along the ground behind the army to maintain communications, but it necessitated our getting very active to determine what was the best alternative for the telephone companies to use in this country to maintain their service, and we picked out a form of weather-proof wire which involved constructing these drops of two single wires instead of a twisted pair and we prepared complete instructions covering the work of installing wires of this kind and this in a very short time was placed in the hands of all the associated companies around the country so that they wouldn't be hampered in the conduct of their business by the fact that the wire previously used for that purpose had been entirely taken by the Government. Another war problem concerned with the supply of material came about in this way: The United States Shipping Board in the construction

of wooden ships made use of large quantities of locust tree 395 nails to be employed in fastening the planking of the ships. They found that they were accumulating very large quantities of ends of these locust billets and they were quite worried about it as a conservation proposition as locust is a somewhat difficult wood to It happens to be the type of wood that is well suited for insulated pins and cross-arms and although these billets were slightly smaller than those that were ordinarily employed for making insulated pins, we worked up a changed design of insulated pins so that this material that was left over on the hands of the shipping board could be used for making insulated pins and cross-arms, and the shipping board advised us that they were greatly pleased at the proposition as it afforded an outlet for a great deal of this material that otherwise they wouldn't have known what to do with. I have called attention to some of these problems and to the general organization of these departments and the subdivision of these departments into highly specialized functions to bring out the point that by concentrating the experimental, research and development work on engineering problems for the Bell System in this General Engineering staff, we are enabled to have expert specialists on every branch of the work. It seems to me that no one associated company would possibly have enough work coming up to keep all of these different kinds of specialists busy, but by consolidating all problems of each variety of research and development and bringing them to our

General Engineering Staff, there is enough work of that kind 396 so that our staff can have a specialist on every technical point in the telephone business, whose duty it is to devote all of his time to it, to conduct investigations and researches pertaining to his specialty and to always know the latest word about it and to have that information on hand at all times for the benefit of each and all

Q. Now, from the standpoint of expense, could a company the size of the Southwestern Telephone Company afford to have an or-

ganization of that kind?

of the associated companies.

A. I should think that they could not have an organization in

any sense as complete as this central organization is.

Q. Now, you stated that previously, about a year ago, the Department of Development and Research and the Engineering Department had not been separated. What was the designation of that department before the separation was made?

A. The Engineering Department.
Q. Will you outline briefly its history and scope?

A. This Department has existed from the beginning of the telephone business. When it was formed, the whole art of telephony was comprised in the crude, and from our point of view, in efficient, telephone produced by Prof. Bell. At the beginning, Prof. Bell and his assistant, Mr. Thomas A. Watson, knew all that was known about the telephone art, and that was a little more than the fundamental id-a. Practically the entire art had to be created. At that time there was no science of electrical engineering, as we understand it today.

There were no colleges that taught it. Now, starting with 397 crude telephone of Prof. Bell. the American through the Engineering Department of the General Staff, and the relations that it established between itself and the engineers of the associate companies one one hand and the engineers of the Western Electric Company on the other hand, has developed the technique of the telephone art to the high state of efficiency to which it has attained in America, and it is a fact that today the United States might be called the "Mecca" of telephone men all over the world. They come here to find out how the telephone business can be best conducted.

Q. Just as a matter of interest, Mr. Rhodes, how does the development of the telephone in the United States compare with the develop-

ment of the telephone in the other countries?

A. It is much more advanced. There are more telephones per hundred population in this country than there are in any other part of the world. The next country is Sweden and the countries of Europe in general are provided, we would consider, very inadequately with telephones.

Q. Do you know off-hand about how many telephones they have in Sweden as compared with the telephones they have in this coun-

try?

A. I don't remember. I don't bear that in mind. I think I can find that out from some data we have here and I will let you have that after the adjournment if you like.

Now, in connection with this development work, our General Staff has done this work naturally because there was no one

else in a position to do it for these associated companies. 398 From the first there have been certain fundamental principles that have governed the work of our general engineering staff, and these have undergone very few improvements to meet new engineering problems. The associated companies needed this engineering information, help and technical advice and the American Company has furnished it from the Start. The associated companies have never been required to undertake particular technical development and standardization because our engineering department general staff has done that work for them. With very few exceptions, all of the great number of improvements between the first speaking telephone ever made and the vast telephone system of today, have been the result of this arrangement established by the American The Engineering Department of the General Staff has been the most important factor in the development of the transmitter, the metallic circuit hard drawn copper wire, many problems connected with the multiple switch-board, the common battery system, transposed lines, fine wire cable, duplex cable, the art of loading and the use of telephone repeaters. In every branch of the new comples art of telephony, fundamental improvements in construction and service and large economies to the associated companies have resulted directly from this arrangement established by the American Com-In this connection, I would like to bring out that this task of developing and advancing the art seems to be a never-ending one. In no time since my connection with these technical departments have they been more actively occupied in such work than

have they been more actively occupied in such work than at the present time and at no time have the departments contained as many engineers working on these development

problems as at the present time.

Q. Can you tell us how the Department of Engineering, and the Research and Development Departments keep in touch with new ideas?

A. Yes. In regard to keeping in touch with general scientific progress, we maintain a very complete laboratory of technical files and records. These extend from the invention of the telephone up to the present time and are most valuable and in constant use in our work for the Southwestern Company and the other associated companies. They represent the accumulated telephone experience of the world and I know of no other collection of telephone data in any way comparable to this and includes, of course, a complete record of all the work that has been done by our general staff. It also includes complete files of telephone patents, all important technical and scientific periodicals and other publications, both of the United States and abroad, the proceedings of technical societies and congresses. Now, all of this scientific literature is not obtained and merely filed away, but each copy of every technical proceeding and

of every technical and scientific paper, and each new patent is examined when it comes to us by specialists at the time of its receipt, in order that the engineering information that it contains will be immediately made known to each of these specialists in that department and the things that concern him and his specialty

400 are merked to him so that he will be able to read them and become familiar with them. Generally, engineering and scientific discoveries in this country and abroad are carefully studied by our staff so that where they contain possibilities of improvement in the telephone plant or service, the new ideas can be tested and the results made available to the Southwestern Company and the other associated companies. Our General Staff has been in a peculiarly favorable position to obtain from abroad under normal conditions information of all kinds pertaining to the telephone art on account of the cordial relations that we have maintained with the telephone administrations of foreign governments. Those, I should say, have been interfered with for five years past on account of the war and the difficulty of communication, but previous to that time representatives of our general staff were frequently sent abroad to make special investigations and to attend congresses and meetings of foreign telephone officials. These are some of the means by which the General Engineering Staff is enabled to keep in complete touch with all foreign developments and scientific problems that might be of interest or value to the associated companies. As examples of that, we have investigated a method of galvanizing iron that was discovered in Scotland and we have carried on tests in this country of a particular form of pole preservation that was suggested by an Those are merely examples of some lines of engineer in Hungary. work that we have followed out.

Q. If you hear of a good idea or development of some particular apparatus that would be of benefit to the associated companies, you go and investigate that regardless of where it may be?

A. Yes, that is what we conceive to be our job.

Q. I wish you would please classify properly the services rendered by these technical departments of the General Staff of the American Company to the associated companies in general, and to the South-

western Telegraph & Telephone Company particularly?

A. They can be divided broadly speaking into two classes. In the first would be work on problems for all of the associated companies in which the Southwestern Company participates. Work of that kind is largely undertaken on the initiative of our General Engineering Staff and not on specific request from the associated companies. In some cases, however, the work may be undertaken at the request of one of the associated companies or as the result of difficulties experienced by one of them. Problems of that kind are worked out by us for the conditions obtaining in each and all of the territories throughout the country and all of the associated companies are advised as to the results. In the second class would be specific work done for the Southwestern Company. That work is usually undertaken at the request of the engineer or some other official of the

Southwestern Company and we perform that specific work at his request. I have some examples of that type of work that I can give you later.

Q. Now, will you explain the relations of the General Engineering
Staff to the engineers of the associated companies like the
402 Southwestern Company that are in the field. By the term
"General Engineering Staff," I mean the two departments
of the American Company that you call the Department of Engineering and Research and the Engineering Department. I believe you
have already touched on one part of that. Is there anything else
that you have to say on that? As I understood the testimony you
gave this morning, the two Engineering Departments are separate,
so far as the American Company having any authority over the

engineers of the associated companies?

A. Yes, and there are some points in regard to the relationship that I would like to bring out. The engineers of our general engineering staff are in constant touch and communication with the engineers of the associated companies like the Southwestern Company's engineers, in that field, but there is no duplication of work between them. The engineers on our staff are experimenting, developing and standardizing. The engineers of the associated companies, like the engineers of the Southwestern Company are constructing and operating and maintaining their plant. The difference is something like that which exists in the Army where the field officers are concerned with where to place the guns and when to fire them and what to fire them at, and they don't have to worry at that time about the design of the gun, or the ammunition, or whether the ammunition was of the right caliber to fit the gun. Those are problems that are worked out by the staff of the Army, which is always in touch with the field, and is utilizing fully

the experience of the staff plans. Our organization operates 403 generally similar to that; instead of having in addition to the present field engineering force, a large number of consulting engineering departments scattered around the country in each operating company or group of operating companies, we have one which does the experimenting, the research and the consulting engineering for the entire system, whereas each associated company or group of associated companies does for itself the field and operating engineering. We have selected from the field from time to time men for our general staff who have had great practical experience and good training, and we have also sent men frequently from the staff to the associated companies, so that there is a flow of new blood into the staff and from the staff into the associated companies. I have on my staff now a man who came from the Southwestern Company and who was employed at one time here in Houston. that I would like to bring out in connection with this relation with the field engineers is that instead of our general engineering staff being in any sense a duplication of work done in the field, that it distinctly operates to prevent duplication, and it is, I think, worth while to point out that it is no reflection on the field engineer, who is a specialist in his work, that he is not an expert on those questions of development and research. It is a case of each body of men being expert in their own sphere of the profession.

Q. Now, is there any of this development and research work that you have been speaking of that goes on without the knowl-

404 edge of the engineers of the associated companies?

A. Yes, in connection with the development work that we do, there are many other things that are of great importance, which the associated companies don't know of now and some of which they will never know anything about unless they call on us for information, and I will explain that later. In the first class are things like the improvements which rendered transcontinental telephony possible, and also wireless telephony over great distances, and also the These were matters that came to the multiplex telephone system. associated companies and to the public all at once. Each one represented the work of years that was being done for the entire system and there are matters of the same kind that are now under way. In the class of the things that the associated companies never know of, unless they inquire, the very great number of pieces and apparatus and methods and things that are offered to us and tried out and abandoned, because they are not of value. I think that the worth of this service to the associated companies, it might be called the mistakes that they will not make, is very great. As far as I know, there has nothing ever been recommended to the associated companies as standard by our general staff and subsequently abandoned for something that was known beforehand. Of course, we are revising our standards very frequently, but that always comes on account of advances and discoveries that are made subsequent to the previous recommendation and not due to the fact that we overlooked or forgot something that we ought to have known about when we

made the first recommendation. I think there is a contrast 405 there between our operating engineers in the field and the operating engineers in many other lines of work, who have to experiment on their own account because they have no organization like ours to turn to for advice as to what is the best thing to do.

Q. Now, Mr. Rhodes, take up and explain the relationship between the engineering staff of the American Company and the Western Electric Company. The Western Electric Company is the man-

ufacturing branch of the Bell System, is it not?

A. Yes.
Q. Mr. Rhodes, this morning, I believe at the time we adjourned, I had just asked you to explain the relation between the Engineering Staff of the American Telephone & Telegraph Company and the

Western Electric Company.

A. Yes, sir; the engineers of the Western Electric Company, which is the manufacturing branch of the Bell System, work in close co-operation with the engineers of the general staff. The headquarters of both are in New York. In brief, the relations are these: The General Engineering Staff determines what is required in the way of apparatus to meet the needs of the business and to give the best service to the public. In this determination the associated companies are freely consulted by us, whether certain types of apparatus for the Bell System are to be manufactured at all is not determined by the manufacturing branch of the Western Electric Company, but the engineers of the General Staff determine that and they 406 determine it, not from the point of view of what the manu-

facturers desire to sell. In producing new apparatus very important work is done by the engineers of the General Staff before the Western Electric Company's engineers are brought in. Western Electric engineers are only brought in when some new device, which is an article of manufacture, is required. They are not brought in in a great deal of the staff work. That is, on traffic matters, operating matters, construction methods, operating methods, they do not come in at all. Their function, broadly described, is to perform the laboratory work and to do the manufacturing engineering and mechanical designing. The engineers of the General Staff study the needs and requirements of the business and determine what the requirements are. They study the needs and requirements before the Western Electric engineers are brought in, so that what is developed is the thing that, after we take it up with the associated companies and avail ourselves of their experience, we find will be best suited to serve the public most satisfactorily. Now, the development of a new piece of apparatus begins by our laving down for the Western Electric engineers what the requirements of this new apparatus shall be, the result which shall be accomplished by it, and our engineers and their engineers consult freely together all through the progress of the development work. We also consult freely with the engineers of the associated companies to get information from them, just as a physician gets information from his patient in

order to enable him to diagnose the case. development work of the company is completed, our General Staff passes on the final solution; that is, we make tests of the apparatus and determine the methods under which it will be used, so that what the Western Electric Company undertakes to develop, and what is finally accepted, is determined by the General Engineering Staff, which decides what will be best to enable the associated com-

panies to serve the public most satisfactorily.

407

Q. How does the General Engineering Staff make known the re-

sults of the work to the associated companies?

A. In several ways. We send out bulletins on some of the most complete lines of work. We issue from time to time circular letters, and about one thousand of these circular letters, in all, have been issued. In many cases we give them information by reason of direct or special letters and other information is given them by sending them specifications. Nearly four thousand have been issued to them so far. Then we send them many thousands of drawings and we have very frequent conferences. In some cases our Staff Engineers go into the field and visit the engineers in the field and take up matters with them, and in other cases the field engineers come to New York to consult with our staff. A large amount of information is in the form of new and approved apparatus, and in addition to that, we do a large amount of consulting engineering work and answer specific requests for information. I spoke of the matter of bulletins, and I have here a typical bulletin. This
408 is a bulletin on transmission equivalent; also a supplement,
and some examples illustrating the use of the bulletin on
transmission equivalent.

Mr. J. D. Frank: We desire to offer those in evidence as Plaintiff's Exhibit No. 65.

'(Thereupon said Exhibit was received in evidence by the Court, and marked Exhibit No. 65, as requested.)

A. Every piece of apparatus that is introduced into the telephone service causes more or less of a transmission loss. And this bulletin gives the results of measurements of the transmission losses produced by various pieces of apparatus, so that by means of it an engineer of an associated company can determine what the proper amount of transmission loss in each circuit is, and by tests can determine whether the circuit is well maintained, so that the transmission losses are not larger than they ought to be. Now, while we are still on that subject of the information set out, I have a list giving merely the title of some illustrative circular letters and specifications that have been prepared by our technical department and sent to the engineers of the associated companies. This list mentions these circular letters and specifications by title only.

Q. As I understand it, this merely gives the titles of some of the

circular letters and specifications that have been prepared?

A. Yes, sir, with the idea of showing, in a general way, the scope of the field covered by them.

Mr. J. D. Frank: We offer the list in evidence and have marked same Plaintiff's Exhibit No. 66.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 66, as requested.)

Q. You are sending out those bulletins all the time as you make studies of the various problems concerning the telephone companies?

A. Yes, sir.

Q. And that work is continued at the present time?

A. Yes, sir.

Q. Would you say that the functions of the General Engineering Staff were those of a clearing house, or similar to a clearing house?

A. I should say only to a limited extent. I do not regard the term "Clearing house" as a particularly apt characterization of the work we do. That term implies collecting something and distributing. The work we do is broader than that, because nothing we do is of a routine nature. The policy is not to wait until the associated companies find themselves throttled or hampered as the result of the expansion of their business beyond the point where existing means and methods are adequate to meet the demand of service, but we endeavor to anticipate conditions of growth and of new requirements sufficiently in advance, so that we are able to develop and have ready for service the new methods, material and apparatus

when required, so that the orderly expansion of the business of the associated companies will not be choked. It might 410 be termed a policy of preparedness, and in this way many of our tests and researches extend over a long period of years. have in mind some insulator tests that have been carried on on the roof of one of our buildings, and those tests have been going on over eighteen years.

Q. Would you say, -is it a fact that the General Staff forces its ideas on the associated companies; in other words, is it compulsory that they accept the ideas advanced by the General Staff,—engineer-

ing staff.

A. No, sir, we don't work that way. We furnish this information to the associated companies and we give them the reasons for it, and they almost invariably follow them because they have learned from results that working with us, the information we give them is correct, but they are not forced to follow it and very frequently we give them several for accomplishing the same general result and the advantages and disadvantages of each, so that they determine which one of them best suits the conditions they have to meet. In general they follow our recommendations voluntarily, because they decide it is to their advantage to do so.

Q. They are at liberty to refuse to adopt any of your ideas if they think it is for the best interest of their business not to adopt

them ?

A. Yes, sir. Q. You have been speaking of some of the services rendered Tell us whether different methods have under the license contract. been followed from time to time since the arrangement was originally entered into for making the payment for the 411 service you have been describing, and in a general way.

what they have been,

A. I understand that originally the payment made by the associated companies was \$14.00 for a set of instruments a year, and by a set of instruments I mean, a transmitter, the induction coil and the receiver. That payment was reduced from time to time, and after a while it was based on the amount that was received by the associated companies on each particular instrument. if the subscriber paid \$8.00 a month for his service, the payment was one amount, and if he paid \$5.00 a month, it was a less amount. That method was complex and it required a large amount of bookkeeping on the part of the associated companies. The payments at that time, as you will see from what I have said, were proportioned to the revenue that the associated company received. So there was a change made about 1902 to the present basis of a per cent of certain of the gross revenues, which reduced the accounting of the associated companies very greatly. The change was not a radical one, and just why it was made 41/2% instead of 41/4% or 41/4% or 5%, I don't know, but I have always understood the change resulted in a substantial reduction in the payments made by the associated companies; that it was offered to them and accepted by them. I further understand that every modification that has been

made from the early arrangement has been in favor of the associated As the business has developed and the years go on, the companies. payments have been reduced and the services rendered to

the associated companies has increased. 412

Q. Under the present arrangement the associated companies pay 41/2% on the gross revenue?

A. Yes, sir.

Q. Why wouldn't it be better for the Southwestern Telegraph & Telephone Company, and the other associated companies, to pay for the actual service rendered by the General Staff whenever they

get the services?

A. Under the present arrangement the Southwestern Company is free, at all times, to come to us and get the best information, advice and assistance that is obtainable. We think it would be a bad thing to attempt to measure and prorate these services. associated company were required to make a separate payment every time it asked a question, as it would if it was going to an outside engineering firm, we fear it might be reluctant to do so and they would fall behind in efficiency. There would be a tendency toward duplication, because the same or similar questions would be asked by different companies, and motives of economy might induce each company asking the question to limit the interrogations to the narrowest limits that would serve its purpose. Piecemeal investigations of that character would increase the expense of the investigations as a whole to all of the companies, and would delay investiga-Furthermore, motives of economy would tend to deter each company from incurring expense as to work, looking into the future in which it was not apparent that the company had any immediate

interest. The same motive would tend to deter each company from requesting the investigation of broad and gen-413

eral questions in which all of the companies were or might become interested, as it might feel that all of the companies should The existing arrangement encourages the associated companies to bring to our General Staff any questions in which they are interested and permit the most thorough and broad investigation by our General Staff, which is a result that I do not think would be attained if each company came to the Staff simply with what it conceives to be its specific requirements under an arrangement for payments such as would be made with any outside engineering firm that was occasionally employed.

Q. Does the American Company operate any local telephone ex-

changes? A. No, sir.

Q. Has it what is known as a Long Line Department?

Yes, sir. That department is organized practically as a separate company, with its own officials and engineers and it operates the long distance lines that connect the territory of the several associated companies.

Q. Would you need your entire staff for the long distance lines,

or any considerable portion of it?

A. Not on anything like the scale on which it is maintained.

The Long Line Department has its own engineers, just like an associated company. The plant of the Long Line Department is from 8% to 10% of the plant of all the associated companies taken as a whole, and I don't think the work we do for the long lines exceeds that proportion of 8% to 10% of the total amount of work.

414 Some of the work we do does benefit the long lines as well as the associated companies,—work we do in standardizing materials and methods in toll line construction helps the long lines and helps the associated companies, but there is quite a great deal of work we do pertaining to exchange methods that has no bearing on the long lines in any way. The great bulk of our work is for

Q. Does the long line pay $4\frac{1}{2}\%$, or a certain proportion of their gross receipts for the services you render them, just as the associated

companies do?

the associated companies.

A. I understand that they do.

Q. You render service to them just as you render service to the associated companies?

A. Yes, sir.

Q. This morning you mentioned something about war work that was done by the General Staff of the associated companies. Did it do any work of this kind for the Southwestern Telephone & Telegraph Company, or any work that helped them out in the problems that confronted them during the period of war?

A. Yes, sir. Just about a year before the declaration of war by the United States our General Staff set on foot preliminary plans to meet war conditions if they should arise. We got in touch with the Council of National Defense, the President of the War College, the Chief Signal Officer of the Army and Director of Naval Communica-

tions. With the break of diplomatic relations with Germany our staff immediately got in touch with officials in Washing-

ton in order to establish harmonious and effective methods of One of the early problems was the equipment of the co-operation. nation's army and the national guard camps and cantonments. One of the army camps I think was Camp Logan, some five or six miles from Houston. It was first necessary to find out what the requirements of the government were, and our staff was able to do this on behalf of all the associated companies, and we made arrangements sufficiently in advance to secure the necessary supplies of material for providing telephone service at these camps. it possible for the associated companies, with a minimum effort on their part in every case, to provide the government service where and when it was needed without delay, and with a minimum of interference with the commercial service. The United States Coast Guards in time of peace patrol the coast, assisting ships in distress and aiding in enforcing the revenue laws. On a war basis the coast guard undertook to maintain a lookout on the Atlantic and Gulf coast to detect and report to the proper authorities submarine or any other enemy operations. The communication system of the coast guard was inadequate for war purposes, and at the request of them we designed a new system and directed and supervised the installation, providing means whereby the coast guard stations could get into communication with the naval district headquarters or general headquarters of the navy at Washington. I might mention in that connection that many of the engineers of the Bell System

went into the army and navy. The head of our Department of Development and Research, Colonel J. J. Carty, became a Colonel in the Signal Corps of the army, and, all in all, thirteen battalions of officers and men were recruited from the Bell System. There was, from our forces, organized a Division of Research and Inspection for the American Expeditionary Force in France, which was largely recruited from the Scientific Staff and Laboratory forces of the Bell System. For the successful handling of the American Expeditionary Forces it was necessary to construct and operate very extensive telephone and telegraph systems in France, which had to extend from the base on the coast to the different army headquarters It had to include camps and supply headquarters, at the front. branch stations, hospitals and other sites, and it had to provide for communication with the principal center of our allies and with the regular French telephone system. Our engineers assisted and cooperated with the Army Signal Corps in designing the system and determining the material used for its construction and in applying our latest methods for obtaining the most rapid service. The Army Signal Corps requested our advice as to what could be done in operating wireless telephones between airplanes and the ground, and similarly, the navy desired telephone communication between submarine chasers that were operating as a fleet discharging depth bombs. It was very desirable in the operations of squadrons that the commanding officer could talk with every commander of every vessel in his squadron. That requirement could only be met

by a radio telephone system. Startin- with our work, previous work before the war, we were able, within about nine months, to complete the development work and arrange for quantity production of radio equipment designed for airplanes and submarine chasers. We were able to accomplish in a very short time important results which had been needed since the beginning of the war, but which had not been obtained by either our allies or enemies. Considerable work was done on radio telephone equipment for the army and navy, especially for amplifying signals and developing small portable sets for field use. Just after the beginning of the war the Secretary of the Navy created a special Board to handle anti-submarine problems. In addition to the regular naval officers, there were four advisory members, one of whom was one of the principal engi-The work on the problem of submarine neers of the Bell System. detection in our laboratory reached very large proportions, over one hundred engineers of the Bell System at one time were engaged. resulted in the development of a detecting apparatus whereby, by a listening device connected with submerged telephone transmitters of special design placed at a number of points, it was possible for an observer to switch from one of them to another and adjust his apparatus so as to give the direction of the submarine from that telephone. By switching from one transmitter to another and changing his adjustment and locating the line on which the sound was heard, by projecting those lines on a map, it was possible to determine the point of intersection which was the place that the

submarine was at that moment. By continuing those oper-418 ations it was possible to tell the direction that the submarine was moving, and the rest of the treatment consisted of the application of depth bombs by the navy. This same system was used for locating airplanes in flight, and at the time of the armistice the work had progressed so far that the apparatus and equipment we developed had made it possible to locate with accuracy the position of an invisible airplane, so that the anti-aircraft batteries could be concentrated on it with very good possibility of destroying it. system was also used for locating enemy artillery, and I have been told, although this is hearsay evidence, by one of our engineers connected with it in France, that it resulted in keeping the Germans' heavy guns ten miles further back than they wished to keep them, because they were located so accurately that there was a very good chance of their being destroyed. They also did work on a secret ciphering device used for transmitting telegrams, whereby the cipher was continually changed, and cipher experts have never yet been able to work that cipher. One of the most important things about military cipher is that it can not be determined by the enemy by overhearing and the information detected. I think the bearing of this work on the present case is, perhaps, two-fold. In connection with the equipment of camps and cantonments we did relieve the associated companies from doing much preliminary work. other bearing is the success of the staff in solving these problems and an indication of the capability of the staff in working for the associated companies.

Q. Up to this time we have been touching somewhat generally upon the activities of the General Staff of the American Telegraph & Telephone Company, and in relation to problems that confront the associated companies. I would like to take up some specific matters of work of the General Engineering Staff, and in that connection will ask you what the General Engineering Staff has accomplished in the development of hard drawn copper wire?

A. In the early days of the telephone service the type of wire that was used was the type that had been used by telegraph companies before that time, and was iron wire. It was poor for telephones, it was difficult to talk over and the circuits were noisy. The limit over which you could talk with that type of wire with any degree of success was forty to fifty miles. Our engineers at that time experimented with various kinds of wire. The wires at that time were all single wires, operated as ground circuits. After a great many experiments, we used a return wire and that resulted in a great improvement in the telephone transmission, but even then, the lines were sometimes clear and at other times noisy. Moreover, there was overhearing from other circuits. The line was unbalanced electrically, although at that time there wasn't enough known about it to know what the cause of the trouble was, but our engineers did dis-

cover that by placing the wires closer together, side by side, that the results were much more satisfactory. It was found out unless the wires were, at periodic intervals of space, crossed back and forth, transposed, as we call it now, that the lines would be noisy. That was all worked out by our Staff Engineers. 420 With improvement in the transmitters, in the receivers, by the use of these metallic circuits, with transposition, the range of telephone communication was extended, but even then the limit was all too soon reached. Our General Staff studied further the electrical laws governing the transmission of speech and investigated the properties and nature of iron wire, with the result that it was found that if the system was to meet the public's demand that something better than iron wire would be required. Various metals and allovz were studied, and it was found that copper best met the theoretical requirements, but copper that was made into wire at that time was too weak mechanically to be used in wire strands between poles. It had the necessary electrical property, but it was too soft and had not the required strength. It had only about half the breaking strength of iron wire of the same size. Our General Staff Engineers took up the problem of manufacturing copper wire and went into the work of manufacture, and one of the engineers of the Staff, Mr. Thomas B. Doolan, who had been familiar from previous experiments with it, undertook a series of experiments in drawing copper wire cold, through a series of dies, so as to harden it. The softness of the copper wire used before that was due to being softened by the heat produced by drawing the wire through the series of dies, and by deluging it with cold water during the drawing operation; and he de-

veloped this means of hard drawing the wire, which gave it a degree of tensile strength very much greater than that of the soft wire; in fact, so that it had a tensile strength substantially equal to that of iron wire of the same size, therefore permitting it to be used satisfactorily in strands of what we term open wire toll The production of this hard drawn copper wire lead to a new technique in the manufacture of wire itself, and also in the method of handling it, stringing and splicing the wire, maintaining it and attaching it to insulators. All of these details were worked out with elaborate care by the engineers of our General Staff, and an experimental line was constructed for trying out the properties of the new material, and when it was completed it was put at the disposal of the associated companies and has since become standard all over the Without this type of wire, the development of telephone systems would be greatly restricted. I might say here, in connection with mentioning some of this work which has been done in the past by our Staff Engineers, I don't desire to give the impression that the payments made by the Southwestern Telegraph & Telephone Company under the license contract are in any sense a royalty or tribute paid on these past achievements. The service our General Staff performs is a contributing one and very important work for the benefit of the associated companies is now under way. I don't think, however, that these past achievements-I do think that these past

achievements serve as a tangible illustration of the capabilities of our staff.

Q. You are just using these as illustrations of some of the accom-

plishments of the General Staff?

422

A. Yes, sir. Q. I wish you would take up and describe the development work of the General Engineering Staff in connection with cables?

A. The operation of telephone wires in cables at the beginning of the business was a very hard problem. At first there was no satisfactory method known, even in cities, and much less in suburban areas, for placing wires in cables. Not only was the expense of the early cables such that it was commercially impossible, but even at a prohibitive expense there was no satisfactory method known of placing wires in cables. As early as 1880 some experimental cables were tried in short distances along side of a railroad track in Massa-In 1883 several cables were laid in Boston, and as showing what the state of the art was at that time, I would like to read a short paragraph from the annual report of the American Bell Telephone Company of March 28th, 1883:

"In the work of putting wires underground, the progress has not been as satisfactory as could have been wished. Underground cables have been laid in iron pipes in Boston in two directions from the main office, one line being twelve hundred feet and the other fifteen hundred eighty-five feet in length. Conversation is successful within short limits over these lines, but where they are used in connection with long lines * * * the voice becomes indistinct."

Now, I have a sample of a new cable which is generally similar to the type of cable which is used at this time. This is not a piece of

that old cable, there is none of it available so far as I know, but this is a cable of the same type of construction, where the 423 wires are insulated with a rubber compound.

Q. You have a photograph of that?

A. Yes, sir.

Mr. D. A. Frank: We offer that in evidence as Plaintiff's Exhibit No. 67.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 67, as requested.)

A. Now, using that type of rubber insulation, not only was the sound of telephone conversation carried on through that cable badly muffled, but there was very serious overhearing from one circuit to That developed the fact that rubber, which another in the cable. was the best insulation that was known up to that time, was unsuited for telephone purposes. That type of cable was formed by the development of a cable in which fifty wires were wrapped with cotton and were then drawn into a pipe that was filled with coil. came the use of wires still covered with cotton, but impregnated with moisture-proof compound, and then our General Staff Engineers, in connection with the engineers of the Western Electric Company,

developed a type of cable in which dry cotton was used. It was found that cotton, after it had been baked dry, so as to expel all the moisture, was a very good insulator if placed in a lead pipe and properly sealed up to exclude moisture. That was a very great step in development. Cotton, up to that time, was thought to

424 be a bad insulator and it was on account of the moisture it We conducted a long series of experiments, extending over a number of years, and finally developed the best type of cable known for telephone transmission in which the insulation consisted of dry paper wound around the wire and hermetically sealed in a lead sheath. The first cable of that type, which was made about 1889, contained fifty pairs of wires insulated with dry paper without the use of any paraffine or other sealing compound. Our work has covered, in the development of cables, a period of thirty years. subject has been one of continuous work and experimentation on our By 1892 we were able to put one hundred pairs of wire in a By 1895 we had in 150 pairs. In 1896, 200 pairs. were all wires of No. 19 Gauge. The development of the so-called fine wire cable came about at that time. In 1900 and 1901 we developed cables containing 300 and 400 pairs of No. 22 gauge wire. In 1902 we reached 600 pairs of 22 gauge wire. In 1912 we produced 900 pairs of 22 gauge wire, and in 1914, by using a still finer wire, No. 24 gauge, we produced a 1,200 pair cable and I have a sample of that cable here.

Q. That is twelve hundred pair?

A. Yes, sir. Speaking precisely, it contains twelve hundred and twelve pairs,—twenty-four hundred and twenty-four wires. The extra pairs being put in as spares, so that if a few pair are injured in the process of drawing in, there would still remain twelve hundred good pairs.

425 Judge Powell: Over twelve hundred wires in there?

A. Yes, sir. Perhaps it would give a little better idea of the amount of wires in there if I take a sample of that cable which is a little more than an inch long and piece out the wire that it contains.

(Thereupon the witness showed a sample of the twelve hundred pair wire cable.)

I might mention that the reason for these wires being colored is for ease in identification in splicing the wires together. They are colored in various combinations, so that the splicer does not have to go through a very great number to make the right splice.

Q. It takes two wires for each subscriber?

A. Yes, sir.

Q. The man who is connecting up those wires has to be somewhat of a specialist in reading colors, don't he?

A. Yes, sir, he can not be color blind. Q. Have you a photograph of that?

A. Yes, sir.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 68,—a twelve hundred pair cable fanned out.

(Thereupon said Exhibit was received in evidence by the Court and marked Plaintiff's Exhibit No. 68, as requested.)

426 Mr. J. D. Frank: We also offer this photograph, twelve hundred pair cable, section, as Plaintiff's Exhibit No. 69.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 69, as requested.)

A. In order to make clear this development of putting more and more pairs of wire in a cable, I have prepared this exhibit, which shows the principal stages in the development of cables from 1888 to the more recent developments which are standard, in 1914. These are actual size photographs of sections of these cables. I would like to say that the largest cable in the Houston Exchange is the one that is shown here over the date 1912.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 70.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 70, as requested.)

A. I would further call attention to the fact that by using this latest type of cable containing twenty-four hundred wires, we are able to place in one duct of underground conduit as many wires as the old one hundred wire cable of 1888 would have required twenty-four ducts to accommodate.

Q. So that that resulted in saving, not only the amount of wire

but also the underground conduits?

A. Yes, sir. A few years ago I made an estimate of the saving made for the Bell System throughout the country,

due to the use of this fine wire cable, over what the expense would have been if they had been compelled to continue to use the large No. 19 gauge, which had been standard up to that time. The saving in first cost of cable was about \$69,000,000.00, in first cost, corresponding to an annual cost of about \$10,000,000.00 per year. The duct saving amounted to \$20,000,000.00 in first cost and an annual saving of about \$2,000,000.00, per year.

Q. That is for the associated companies?

A. Yes, sir, as a whole. Now, this work represents a continuous train of development which has required careful and exhaustive work and invention and development; and at every stage it has required a study of the material used, the process of manufacture, the transmission efficiency of the cable and other factors. We have, within a little over a year, completed further developments on small diameter cables, extending the principles used in some of the latest types of cables to small size cables, which has resulted in a saving of from 8% to 10% in the cost of these small cables. In all of this work the durability of the material used is a matter of great import-

ance. In all of this work, if this paper insulating material or the dye with which it is colored contained any chemical substance that would produce internal decay in the cable, it would result in a calamity in all the exchanges over the country; so it has required careful study by chemists before we started on any new steps. There is rather a typical case of this development work which I would like to describe in connection with the sheath surrounding these

cables. Very early in the work it was found that lead was 428 not the best material to make cable sheaths from. That it didn't possess the necessary mechanical properties and it didn't have the necessary ability to resist corrosion under some soil conditions, so that in the early days of the business we started making cables of an alloy consisting of 3% of tin and 97% lead. The price of tin, since about twelve evars ago, has been increasing and has increased to such an amount that, although only 3% tin has been used in these cable sheaths, the cost of the tin amounts to a very considerable sum of money. So we started on a long series of studies and experiments, for the purpose of devising an alloy that would be at least as efficient as the 3% tin alloy had been and would be We started first with laboratory experiments covering a wide range. Alloys of lead and antimony, lead and bismuth, lead, nickle and copper, lead tin and antimony, all of them in various proportions, so that we studied, in all, somewhere from twenty to twenty-five different alloys. We took samples of these materials and we made breaking strength tests on them; and we made the material up into cable sheaths and placed it in a rapidly vibrating machine, where the number of vibrations were counted, in order to make sure as to its ability to withstand repeated vibrations such as the cable is exposed to in the case of aerial cable that is supported by messenger wires. We also made tests for chemical corrosion and for electrolytic corrosion. We extracted liquid from the soil of man-holes and made corrosion tests in what I presume would

429 be called a deluxe solution of hippuric acid. As the result of these laboratory tests we picked out the most promising type of alloy and we constructed lengths of full size cables, lengths of four or five hundred feet of cable sheath, with the new type of alloy, and in comparison with sheaths of previous standard type of alloy, I mean 3% alloy, we conducted experiments repeatedly, pulling these cables into and out of the ducts, pulling them out eight or ten times, to see which one would show signs of cracking first. We placed some of them on the elevated structure in New York, where the branch lines join the main line, such that the structure was subjected to rather severe vibrations, due to the passage of the trains, and for a period of over two years those test cables were under observation, and as the result of all this work, which extended over a period of four or five years, we were able to recommend an alloy consisting of 1% antimony and 99% lead, which was in all respects at least equally efficient as the alloy used before, in several respects better, and that has been for about seven or eight years at the disposal of the associated companies. The immediate effect of that change was to make a saving of 8% to the associated companies in the cable which they bought. During the war the saving was somewhat less than that, because antimony was used in great quantities in the manufacture of schrapnel.

Before leaving this matter of cable development I would like to bring out that the advance in cable art, together with other important improvements that have been made comparatively

recently, it is now possible to carry on satisfactory conversation over wires and cables more than a thousand miles in
length, and they employ wires no larger than were used twenty-five
years ago in those cables which were mentioned in that early report
of the American Bell Telephone Company, which seriously interfered
with transmission when used in lengths of about a quarter of a
mile.

Mr. D. A. Frank: How do you get a cable two thousand miles long?

A. There are cables five hundred miles long. These particular tests that I have listened to over one thousand miles were made by looping it back and forth in a cable about 90 miles long. The longest cable we have in this country, and it is very much longer than any other in the world, is a cable reaching from Washington, D. C., to Boston—five hundred miles. In connection with this subject of cables, we have done a great deal of work on the best methods of splicing and the best material to be used in connection with cable splicing, and generally the best arrangement and practice to be followed in splicing cables, and the way in which this information is transmitted to the associated companies is typical of a great deal of our work, and I think it might be well to introduce it here. We prepared what are termed hand books, giving in great detail and copiously illustrated detailed instructions to be followed to attain the

best results. This book is Specification No. 3912, entitled "General Cable Splicing."

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 71.

(Thereupon said Exhibit was received in evidence and marked Plaintiff's Exhibit No. 71, as requested.)

Q. This is used in connection with the operation of an exchange? A. Yes, sir. I have another one, Specifications No. 3913, "Underground Cable Splicing."

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 72.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 72, as requested.)

A. And Specifications No. 3914, "Aerial Cable Splicing."

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 73.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 73, as requested.)

A. And Specifications No. 3915, "Block Cable Splicing."

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 74.

(Thereupon said Exhibit was received in evidence by the 432 Court, and marked Plaintiff's Exhibit No. 74, as requested.)

A. Specifications No. 3916.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 75.

(Thereupon said Exhibit was received in evidence by the Court, and marked Plaintiff's Exhibit No. 75, as requested.)

A. On Saturday I was riding around in Houston a little, looking at the telephone plant, and at that time I was with the splicing foreman looking at some underground construction, and I asked him if he had any occasion to use these hand-books, and I found that on his car he had copies of all of these hand-books. He was carrying them around with him.

Q. He did not just file them away when handed to him?

A. Apparently not, in that case.

Q. Is that all you have to say on that, Mr. Rhodes?

A. I think that is probably enough for your purposes. I could

go into all these matters at greater length if you desire it.

Q. Suppose you take up and describe the works of the General Engineering Staff in connection with the development of what is known as phantom circuits.

A. Has it been brought out in this case what that is?

Q. No, sir; I think you had better explain it.

A. I have already mentioned that a telephone circuit ordinarily consists of two wires placed side by side on a cross arm. Now,

433 let us picture a second circuit consisting of two more wires placed side by side and alongside of the first circuit. By connecting those wires together it is not only possible for a party "A" to talk to a party "B" over one pair of wires, and a party "C" to talk to a party "D" over the second pair of wires, but simultaneously two other parties—"E" and "F"—can talk over those four wires, and that circuit which permits that talk to go on is termed a phantom circuit.

Q. In other words, two or three telephone conversations over the

four wires?

A. Yes, sir. The proposition to employ telephone circuits in this manner was an old one. It was proposed about 1884 by our present Chief Engineer, Colonel Carty. Under favorable conditions, it was possible to get some results, but for many years no practical use was made of the phantom principle. In fact, it was scarcely more than an interesting scientific curiosity.

Q. Has the Southwestern Telephone Company a great many of

those phantom circuits in the State of Texas?

A. Yes, sir, I understand they have about twenty thousand miles. I think it is only fair to state here that that is a development that pertains entirely to the toll line plant of the Company.

Q. The local exchange has to have long distance service?

A. Yes, sir.

Q. Mr. Rhodes—will you tell us something about the development of the duplex cable? Describe briefly what you mean by

"duplex cable."

A. The subject of duplex cable is closely related to this 434 question of phantom circuits that I have just been describing. for the reason that in the duplex cable the phantom principle is applied to the wires and not the cable in the same way that in my previous description it was applied to the open wires and cross arms. principal application is where phantom open wire lines enter cities through cables. Before the duplex cable was developed, it was necessary to use three pairs of conductors and cable to bring in the three circuits that were carried by two pair conductors, including phantom, on the whole of the line, so that by this principle an additional circuit is superimposed on each two pairs in a cable, and thus the number of circuits is increased fifty per cent without increasing the size or amount of copper in the cable. In developing these duplex cables, many serious and peculiar difficulties were encoun-The structure requires the pairs of wires not only to be twisted together in themselves to prevent cross talk, but special methods of twisting two pairs themselves already twisted together are required in order that overheating may not occur between one phantom circuit and another in the same cable, so that the use of this new type cable, this phantom type at the ends of open wire circuits has permitted the phantoming of open wires under conditions where this would not otherwise have been possible. The sample of duplex cable which I have here is a section that happens to be a sec-

tion from the duplex cable used between Boston and and
Washington but it is the same general method of construction
as is followed in the duplex cables which are used in Houston for

bringing the toll lines into the exchange. Q. Have you a photograph of that?

A. Yes.

Mr. J. D. Frank: We'll introduce this photograph of the Boston-Washington duplex cable as Plaintiff's Exhibit No. 76.

(The photograph was thereupon received in evidence marked "Plaintiff's Exhibit No. 76, Witness Rhodes," and is filed herewith.)

Q. I wish you would please describe what a loaded telephone circuit is and tell us what the work of the Engineering Staff has been in the development of the art of loading?

A. Perhaps the best way to begin to describe the art of loading is to tell what it does. It is a means whereby by placing certain types of coils at proper intervals along a telephone circuit the range over

which you can talk with a common size of wire on pole lines is doubled, and the range over which you can talk over a common size of wire in cable is increased from three to four times; that is, you can talk over 80 miles of No. 19 gauge wire and cable, as well as you could talk over 20 miles of wire and 19 gauge cable not loaded. Now, this device doesn't work like a relay or a repeater to bring in new

energy upon the line but it operates to reduce the losses in the line itself. It makes it a valid conductor for telephone cur-

rents. The principle upon which it operates is difficult and intricate to explain without getting into high mathematics, and I don't think it is necessary to do that.

Q. We probably wouldn't understand you if you did, Mr. Rhodes,

so don't do it.

A. Well, I would rather not. I can show you what the coils are like and then tell you what is really the important thing as to how this development came about and how it progressed. This is one of the typical cable-loading coils. Now, this is a cross section of the same type of coil and I have here the complete coil and a cross section as one drawing.

(By Mr. D. A. Frank:)

Q. You mean you have a picture of it? A. Yes.

Mr. J. D. Frank: We introduce that as Plaintiff's Exhibit No. 77.

(The picture was thereupon received in evidence, marked "Plaintiff's Exhibit No. 77, Witness Rhodes," and is filed herewith.)

A. (Continuing:) Now, this coil consists first of all of a doughnut shaped core. Though at first sight it might appear as though that core was of solid metal, it is actually made up of about 70,000 turns of wire, which is about four thousandths of an inch in diameter, and I have here the wire core of this coil. I have here also, on the same drawing a spool of the wire on which the core was wound.

437 Mr. J. D. Frank: Let's introduce that picture in evidence as Plaintiff's Exhibit No. 78.

(The picture was thereupon received in evidence, marked "Plaintiff's Exhibit No. 78, Witness Rhodes," and is filed herewith.)

(By Mr. J. D. Frank:)

Q. How long would that be if that wire were stretched out, Mr. Rhodes?

A. About 10 miles.

Q. About 10 miles. There is about 10 miles of wire then in that coil

A. Now, when this core is completed and you will notice that the wires in the core are purple colored wires, the wire itself is the

natural color of iron. This purple color is due to an insulating material with which the wire is coated, because for magnetic reasons to avoid electrical losses in the core of the coil, each one of these 70,000 turns has to be insulated from the wires alongside of it. When this core is completed, it is wound with the wire which is actually introduced into the telephone line, one winding goes in and out over half of the circumference of the core and the winding which is introduced into the other wire of the circuit goes around and around the core and the other half of its circumference. Those are placed on open wire lines about 8 miles apart and on cable circuits at intervals of from one to two miles, depending upon the character of loading and on the size of the cable conductor.

(By Mr. D. A. Frank:)

438 Q. You put one of these coils to each cable?

A. One to each circuit in the cable.

Q. To each circuit. If you had one of these 2,424 wire cables loaded, you would have 1,212 balls like this?

A. Except that it is not advisable and economical to load heavy conductors with small gauge like that.

Q. What I want to get in the record is that you have-A. (Interrupting.) One for each pair of wires.

A. One for each pair of wires and not one for each cable.

A. Now, the fundamental principle of this art of loading was invented by Dr. Pupin, who was a professor of mathematical physics in Columbia University. His patent described the invention purely in mathematical language. Our staff investigated it at the time and found that it offered the prospect of great economy in the telephone business, and Dr. Pupin's patents were procured by the American Company for the benefit of the Bell system, but after we procured them, all we had was a mathematical idea, the fundamental prin-An enormous amount of work was required to reduce these mathematical ideas to practical form.

Q. You bought the formula?A. Yes.Q. You bought the formula.

A. We practically bought the formula, the mathematical formula.

(By Mr. J. D. Frank:)

Q. Is that also true with reference to a great number of the patents that you have?

A. Well, we don't buy great numbers in mathematical form, but we buy them in a form which requires a great deal of de-439 velopment work to do before they are reduced to practical. Q. Yes, sir.

A. But, in this particular case what we had to use in the telephone plant was something that the construction and maintenance forces could apply to a cable and could maintain and operate and it was necessary to have these completed coils. It required several years' work on the part of a large corp- of some of the most highly

trained men on our staff to produce the coils in the form where they would be commercially practicable. I remember very clearly that in the early days of this development work that it seemed as though there would always be inherent losses, electrical losses in the coils themselves that would largely neutralize the benefits to be obtained from loading, and the overcoming of these losses has been the result of years and years of painstaking work, of slow and patient research. At the time that the work first started, the first wire that we got that was at all suitable to make those cores from cost \$36 a ton, and as the result of a great deal of work the process of manufacturing that wire was improved and finally brought down to 60 cents a pound. The point I wanted to bring out was it wasn't a market article, we had to develop the means of making it, and take it up with the wire manufacturers. Shortly before the war, we had started on some work, the purpose of which was to obtain a cheaper and at the same time more efficient form of core for these loading coils and it turned out that it was very well that we did, because the

dies employed for drawings these very fire wires were made
440 by holes cut in diamonds, and the only dies available for
drawing this wire came from Germany, so that if we hadn't
had this alternative development well under way, I see nothing that
could have happened but that the supply of loading coils to the associated companies would have been cut off, but by concentrating
on this development, we produced this better and cheaper form of

cores

Q. You have a photograph of that, have you?

A. Yes.

Mr. J. D. Frank: We introduce that in evidence as Plaintiff's Exhibit No. 79.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 79, Witness Rhodes," and is filed herewith.)

A. (Continuing:) Now, this core appears to be made up of what appears to be 7 discs of iron or steel laid one on top of each other. The Exhibit picture shows also one of these—a single one of these core rings. Now, as a matter of fact that disc is not made of solid iron or steel, but is made of very minute particles of iron dust. Pure iron is electrolytically deposited and then ground into a very fine powder. Then the particles are coated with a gum so that each one is electrically insulated from the other.

(By Mr. D. A. Frank:)

Q. Each what?

A. Each particle of iron is electrically insulated from the adjoining particles. If you take that disc in your hand and break it, you will see that it is not solid matter.

(By Mr. J. D. Frank:)

Q. Do you mean, Mr. Rhodes, that each particle of iron in this ring is insulated?

A. From all the other particles by being coated with a very fine

solution of gum.

Q. How big is each particle?

A. Well, they are so small that if you take some of that dust in your hand and rub it, it spreads around in the same way that flour does. I never measured the diameter of them, but they are exceedingly, exceedingly fine. Now, it is a peculiarity of this loading coil development, which is characteristic of many subjects, that our general staff takes up, that the first idea, however important it may afterward become, is a rather small portion of the whole development work so that in reducing the idea to practice a very great amount of work has to be done in the details. Since the development work has been in progress, we have developed and covered by patents the whole art of loading, including the toroidal form of cord. The preferred methods of loading phantom circuits, the use of what we term any quality coils in connection with loading to reduce electrical reflection losses at line terminals and there are numerous patents covering the many details in the design and manufacture of both the cord and the coil and the methods of encasing the coils in protecting coverings, altogether the whole art has been developed and covered by patents since the original investigation. I described the benefit to the associated com-

panies from phantom circuits and duplex cables and in connection with this art of loading it is interesting, I think, to know that a long time after loading was developed, it was not possible to load phatom circuits. It was possible to load what we term the two side circuits from which the phatom is composed.

(By Mr. D. A. Frank:)

Q. You haven't described the phantom circuits, have you?

A. You were out of the room. But it wasn't possible to load the phantom itself. Neither was it possible to phantom load the lines, so that the associated companies were face to face with a serious The use of one of these principles prohibited the use of the other. Now, our General Engineering Staff took up this problem and worked on it and finally developed and placed at the disposal of the associated companies coils whereby the great advantages of loading can now be applied to phantom circuits both in open wires and cables, and it is possible not only to load the physical circuits that constitute the phantom, but the phantom itself. The application of loading has not only extended the distance to which a telephone user in Houston can talk but it has resulted in greatly improved service over lines reaching some of the less distant places. The saving which has resulted from loading in the plants of all of the associated companies amounts to a total of over \$135,000,000.00. Now, I think I should qualify that figure to this

extent: That is what it would cost to provide non-loaded circuits of necessary large gauge of copper wires to give the same transmission efficiency over the same distance that is now obtained with these loading circuits. I don't think that sum of money has been actually saved because what would have happened if we hadn't had this art of loading is that these very large gauge copper circuits would not have been placed and we would never had transmission over the distances that we have now. But if it had been sought to have produced the transmission over the same dis-

tance, it would have required that expenditure for larger service.

Q. Now, what has been done in the matter of developing repeaters

or amplifiers for speech transmission?

A. In addition to this development of the art of loading, which operates to increase the transmission efficiency of the wires themselves, our General Staff for many years has been conducting exhaustive studies to extend still further the range through which it is possible to transmit speech by means of amplifiers which operate to take the weakened telephone current at the end of a line and apply new energy to it, and send it on its way with the same wave shape that it had before and with renewed energy.

I think that it would help in explaining that, and perhaps help in explaining some of the other things, that I will talk about, to just say a word on the nature of the telephone current. When one speaks as in this room his voice sends out waves of condensations and rarefactions in the atmosphere. Thus waves in the case of a

telephone conversation impinge on the diaphragm of the telephone transmitter and by acting on a carbon button transform these acoustic waves of the air into electrical waves of the same frequency, the same number per second, and the same shape as the sound waves in the air. It is possible to photograph these electrical sound waves in this way, by making use of a very all coil of wire which carries a mirror and introducing that coil in the electrical circuit in such a way as the strength of the current increases the coil is slightly moved. Then by transmitting a ray of light from a lamp to this mirror and reflecting it back on a photographic film, the strength of the current is shown by the amount which that little spot of light will move up or down, depending on the motion of the coil, which varies with the strength of the current. Now, if that was all that happened, why this little film of light would simply move up and down in a straight line as the strength of the current varied, but if the film of light horizontally moved at the rate of four or five feet per second why each one of these fluctuations in the strength of the current will appear as a wave on the photographic film as it is developed and I have some photographs of the electric current produced by spoken words.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 80.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 80, Witness Rhodes," and is filed herewith.)

445 A. (continued). Now, the loudness of a sound depends on the amplitude of vibration of these waves, that is, for a loud sound these waves cover a greater vertical distance on the diaphragm than they do for a weak sound where the distance covered is The pitch of the sound depends on the number of these vibrations that occur in a given period of time, as a second, and that which distinguishes the quality of one's voice. Two people may speak with the same loudness and with the same pitch and yet their voices are different, they have a difference of quality and that which distinguishes the quality is the shape of the wave itself. the problem of the repeater was to take a telephone conversation at the end of a line where the energy had been greatly reduced and send it out with renewed strength with waves of a greater amplitude but the same number of waves and exactly the same shape, that is, the transmitted wave must have all of these peculiar little oscillations that are shown in the wave at the incoming end. Now, that has been done by a devide which was known as a repeater. first repeaters made were of a mechanical type where the receiver was connected to a transmitter and the receiver spoke into this transmitter and sent the vibrations along, but that wasn't a particularly effective form. A form which employs a vacuum type is the type of a repeater which is the most effective.

Q. You have a photograph of that, Mr. Rhodes? A. Yes.

446 Mr. J. D. Frank: We will offer that as Plaintiff's Exhibit No. 81.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 81, Witness Rhodes," and is filed herewith.)

A. (Continuing:) Now, that bulb itself is only a small portion of what is known as a repeater set, and what actually happens, is this: The bulb contains in the center a film, which is heated by current from a battery. It contains a grid of exceedingly fine wires on each side of the film and a place on the outside, and by means of a control which the incoming current passing through the grid exercises it is possible to control the flow of current through the vacuum in that shape and send out the current with renewed strength. In developing those repeaters, it was necessary instantly to develop a special type of mercury air pump to exhaust those bulbs to a billionth of an atmosphere. They are exhausted to a very considerably higher vacuum than obtains in the ordinary electric light Now, I don't think it is necessary to go into the theories of the operation of this repeater but to simply say that it is the element which has made it possible to talk across the United States and to talk from Houston to other cities over the entire United States. think the important thing to bear in mind is that our solution of this problem of talking over very great distances differs from the solution that was proposed by a number of European scientists

as well as by a number of American inventors. The method 447 of these people to secure very long telephone transmission was by means of special highly ingenious and complicated loudspeaking transmitters. We made a very careful study of the situation and concluded that the problem of telephony across the country would not be solved in that manner, but rather through devices of this kind improving the efficiency of the trunk lines themselves. This method we have adopted and worked out and it has met with complete success, so that subscribers in Houston can now talk over the entire United States, and the important thing is that this has been accomplished without any expense or change being required in the plant of the Southwestern Company in Houston for new construction and without changing even a wire or any piece of apparatus in the subscriber's station, or in the subscriber's cables or in the local switch-If the results had been accomplished by these loud-speaking transmitters, it would have been necessary to have equipped each subscriber's station with this different type of transmitter, to have replaced new cables, because the existing type of cables would not stand the loud talking produced by these transmitters and the switchboards would have to be rebuilt; but all of that reconstruction has been avoided, and at no expense to the local company it is now possible for these telephone subscribers to talk throughout the United States.

Q. Is the General Engineering Staff also working on wireless

telephony?

Mr. D. A. Frank: Just before you pass to wireless telephony, I would like to ask him a question or two about this bulb.

(By Mr. D. A. Frank:)

Q. As I understand it, that bulb there has two circuits in it, hasn't it?

A. Yes

Q. One of the circuits come-, say, from the east and the other goes towards the west from that point?

A. Yes.

Q. But they don't actually touch each other?

A. No, the current flows by means of what are called electrons

through the vacuum.

Q. Through the vacuum. Now, this bulb that you have there appears to an ordinary observer to be like a light bulb which you can buy for thirty or forty cents. Have you any idea what it costs to buy one of these bulbs where you are making them wholesale like you are doing now?

A. Why, they cost somewhere in the neighborhood of Fifteen or

Twenty Dollars.

Q. Just for the bulbs and that is just a small part.

A. That is just a small part of the whole equipment, of course.

Q. Of course, that figure that you mention is the manufacturing

cost without any development cost. Enormous sums of money have

been required to develop these bulbs, but the bulbs themselves actually cost over Fifteen Dollars, just to manufacture them?

A. They cost over that, yes.
Q. I thought that would be interesting to know. It impressed me when I first heard of it.

A. Why, in that connection, it has always been rather dif-449 ficult for me to picture what a vacuum of a billionth of atmosphere would-

Q. (Interrupting.) Did you say "billionth?" I thought you

said "millionth."

A. No, I said billionth. And the best picture I could say was if you take away every inhabitant of the United States but the last man and then take away nine-tenths of him, the number that was left would be a billionth of the original population.

Q. That is very impressive, Mr. Rhodes.

A. Now, in connection with this development of the repeater, in working out the wire problems connected with it, our engineers recognized that they have developed certain scientific facts, methods and devices that might, if further worked out, successfully solve the problem of wireless telephony. So we directed our work to this problem with the result, which we demonstrated conclusively in 1915 when we transmitted speech from Washington to San Francisco by radio methods, and also from Washington to Hawaii on one end and from Washington to Paris on the other.

Q. By "radio methods," you mean wireless?

A. Yes.

Q. Wireless telephony?

A. Wireless telephony. The problem of getting the wire and wireless systems together has been solved so that a person speaking at the end of a wire to a standard Bell telephone has talked over the wire hundreds and hundreds of miles and at the other end

450 of the wire has been connected with this wireless station equipped with this system that we have devised, so that by means of the wireless you can talk across the ocean to a moving ship I think it is not too much to hope that this system will find commercial application so that it will be possible for a subscriber in Houston to communicate with a vessel that had left the Port of Houston and might be a hundred or two hundred miles out in the Gulf.

Q. That has been done, hasn't it?

A. That has been done. We have conducted a demonstration for the Navy Department where the Secretary of the Navy himself from his desk in Washington conversed with the commanding officer of a battleship that was between one and two hundred miles off the coast and there was a rather pleasant incident in connection with that demonstration that in the evening we fixed it up so that the apparatus was connected to the circuit leading to the apartment of this naval officer and while he was in the storm at sea, he was enabled to talk with his wife in her apartment at Washington.

Judge Powell: Wasn't it Marconi that said in Rome recently that he believed by the end of this year we would have wireless telephony everywhere? I read in an Associated Press Dispatch that it was in Rome that he said that before the end of the year he thought it would be common everywhere.

(By Mr. J. D. Frank:)

Q. Does the General Engineering Staff Mr. Rhodes, really work for the associated companies in connection with fundamental plans?

A. Yes.

Q. I wish you would take that up and explain it, please sir.

A. In order to give a fair idea of my work generally, I think it will be necessary to describe briefly, first, what a fundamental plan is, and next, the necessity for it, and then how it is made and what the General Engineering Staff does in connection with the subject. Now, as to what a fundamental plan is: It is a map showing what the general lay-out of the telephone plant placed in a city is expected to be at some definite time, from 15 to 20 years in the future. It shows the number of central office districts that will be required at this future time to perform the service most advantageously. It shows the boundaries of these central office districts. It shows the proper location for the central office in each district to enable the service to be given with the minimum amount of cable plant. shows the number of subscribers' lines to be served by each of these central offices. It shows the proper streets and alleys in which to build underground conduits in order to result in a comprehensive, consistent and most economical distributing system, reaching every city block that is to be served by underground cable and finally it shows the most economical number of ducts to provide in each conduit run when that conduit run is built. The fundamental plan is therefore a guide to the management of the associated company when they have to provide any of the principal, important

452 and expensive elements of plants, such as buildings and central office switch-boards and conduit runs to the end that these shall be of the proper size and at the proper location in order to serve the telephone requirements of the city with the greatest economy. Now, the necessity for a fundamental plan arises from the fact that the normal condition of a telephone system is one of continual growth. Usually the number of stations and the amount of telephone traffic grow faster than the population. In building a telephone system for a city like Houston, it will be impracticable and uneconomical to limit the construction exactly to the present day For example, if in order to serve a particular section of the city the company must now place underground conduits, it would be a mistake to provide only the exact number of ducts required at the present time, assuming that there was any future growth expected in that section. Now, the most economical number of ducts to install in a given location is an important engineering problem. If, for example, you required one cable at the time this underground conduit was built and you put down one duct this year and another one next year and another one the year after, and so on, why, you

would be wasting money, due to reexcavating and repaving the street

every year. On the other hand, if instead of adding one at time, year by year, you will say I will put down now enough ducts to last for 100 years, and then I will never have to reexcavate and repave the street, now assuming that anybody could estimate with

453 any degree of accuracy for as long a period ahead as that, why that proposition would involve a waste of a different kind, because interest and the annual charges would more than offset the saving that you would make by avoiding the more frequent taking up and repaying of the streets. Now, somewhere between those limits, one duct each year or enough for 100 years, there is a point for which it is most economical to build when you place the Under average conditions, it works out best to build conduits for about 15 or 20 years ahead. Now, there is a similar problem in regard to building for telephone buildings themselves, in regard to spare capacity provided, and there is a similar problem in The management of a telephone company can't act switchboards. to the best advantage unless all the factors which pertain to grown in a community are carefully studied. The alternative would be to make an off-hand guess, maybe tell a construction foreman to go out and build a conduit and he might stand at the street corner and say I guess I will put down six ducts. Now, he isn't going to get as good an answer as will be obtained if a careful study is made. forecast is better than a rough guess. The estimate, however, is always necessarily surrounded by uncertainty, and the fact that an estimate of this kind had to be made constitutes a serious business hazard that the telephone company can't avoid, and the only way to minimize this hazard is to make these forecasts on the best possible engineering basis, utilizing all of the experience of years in study-

ing the question of telephone growth. Now, as to the third 454 point, as to how these fundamental plans are made: There is first made, as the basis for a fundamental plan what is called a commercial survey, which is a forecast of the expected future of the community showing the amount and distribution and character of the expected future population, the business firms and the telephone users generally. Before making a forecast of this kind, it is important to know what are the present conditions of population and telephone development. Now, to ascertain this, there is made what is called a "pulse count" or a census from the telephone point The present telephone users are classified into residence telephones, business telephones in the residential area and telephones in the business section. In analyzing the residence telephones, all the families in the City are divided among those occupying private residences, and family houses, apartments and lodging houses, and in each class subdivisions are made according to the rent paid. found that the class of telephone service varies rather consistently with the amount of rent that the householder pays. The present percentage of telephone users in each of these classes is ascertained as well as the character of these services. The same analysis is made of the business telephones. They are divided into offices, retail stores, both large and small, groceries and markets, drug stores, wholesale establishments, manufacturing establishments, large and

small, places of amusement, lodge, society and small club rooms. garages, fire and police stations, storage warehouses, railroad 455 stations and yards, car barns and power houses, government buildings, religious institutions, educational inds-itutions. hospitals, homes and sanitariums, and so on, through a long list, and by general experience it is known what those classes of occupants take in the way of telephone service. The same thing is followed in regard to the business center of the city, in regard to de-partment stores, hotels and office buildings. Now, from all that in-formation, careful forecasts are made as to what the expected use of the telephone will be. Each city requires a special study as there are not any uniform rules or formulas that can be substituted for judgment and experience in making these forecasts. It works out that each city has its own reasons for its past growth and each will have certain peculiar reasons governing its future growth. very important factor in the forecast is the future population of the City as a whole and by sections, and in this part of the work the experts who are given to this particular problem on our general staff are those who are constantly studying the growth of all cities in the United States and whose point of view is based on nation-wide ex-This involves proper and detailed comparisons with the growth of the history of other cities where conditions have been such that the experience in these places is useful in making the prediction for the City in question. Then, after that is done, further engineering work consists in applying proper engineering practices and costs that a large part of the telephone plant are op-

erating, so that all of the points of future offices and dis-456 tances are laid out on the map and the costs are figured over a period of years and the arrangement of offices upon the basis of districts and the number of districts are carefully worked out so as to give the most economical arrangement, all things considered, over a period of years in the future. Now, what the General Staff does on that work is this: It keeps the associated companies' engineers posted by means of bulletins and letters and personal trips of our men around the associated company-s' territory, we keep them posted as to the best methods for making these development studies and Whenever we are requested by an associated fundamental plans. company, we send our experts on the ground to col-aborate with the associated company's engineers in making fundamental plans. And this is usually the case in the larger places and in the more complicated and difficult situations. It is the fundamental work that we have done that enables us to say which is the most economical period to look ahead in making the provisions for the plant. Our experts on fundamental plans who have had an experience ranging over the whole United States studying questions of growth are at all times available for advice by the engineers of the associated companies.

Q. Have they ever been used here at Houston?

A. Yes. I planned to mention that in connection with some of the specific work.

Q. That is all right. You needn't take it up out of order if you intend to take it up at some other specific place.

A. Very well. When our General Staff Engineers cooperate in field work, our experts take part in the house count work and in the population estimates, conferring with the officials of the associated companies. Our people supply information as to the growth of the conditions in other cities and furnish a great deal of valuable information as to the result of development of the cities and fundamental plans that have been worked out in other places.

Q. Now, when those men come to Texas to work on these fundamental plans, is there any extra charge made to the Southwestern

Tel. & Tel. Co. on that account?

A. No, their expense—their salary and travelling expenses and their living expenses while they are here are all paid by the General Staff.

Q. That is by the American Tel. & Tel. Co.?

A. Yes. Before leaving that subject of fundamental plans I would like to say that while it is not possible to estimate the loss which would occur in the course of time if a company proceeded to build its plant without a trustworthy fundamental plan, it is clear that a saving of only a small per cent of the expenditure involved in the work which is covered by the fundamental plan would be a very substantial matter to an associated company.

(By Mr. D. A. Frank:)

Q. Suppose this building had been located at the wrong place by say 400 feet, would that have added to the cost of putting in the plant here?

A. Yes, it would add 400 feet to all the cables coming from one direction. It is not so much a matter of 400 feet as it is a matter,—very often in the absence of a fundamental plan it might be possible that an office would be a half a mile out

of the proper position, it might be as serious as that.

Q. I believe in St. Louis we had one office that was located something like half a mile out of the right place and that was without a fundamental plan before the Bell Co. got in charge of the plant there and it was decided to give up the building entirely and build an entirely new building, because it was more economical to build a new building and establish the plant at the right place than it was to maintain it at a place that was entirely beyond the wire center. You may remember that?

A. I remember it.

Mr. D. A. Frank: The building had to be sold at a great sacrifice because it couldn't be used for anything except telephone purposes.

(By Mr. J. D. Frank:)

Q. Now, take up and describe some of the benefits of the General Staff, dealing with the standardization of materials, apparatus and methods?

A. I think perhaps the best picture that can be given of the bene-

fits of standardization is first of all to look at what has happened in the absence of standardization. In the telephone system in Paris, France, the subscribers buy their telephone instruments from manufacturers. The French Administration has approved about 150 types of instruments which are made by about 25 different manufacturers. All the manufacturers have done their best to get

new types of instruments approved and to sell them to sub-From time to time, manufacturers there have discontinued making certain types of instruments, sometimes because it didn't pay to make them any longer and sometimes the manufacturer failed and went out of business and that put the subscriber in a bad position because he couldn't get any more parts for re-The instruments in Paris are installed by Government inplacing. The Government operates the telephone system. scriber buys his instruments and the Government maintains them. They have found it very difficult to familiarize the inspectors with 150 different types and it is difficult to carry all the parts that are necessary for repairs. Now, when the subscriber has some difficulty with his service, he reports it to the telephone administration and in the course of time they send a man to his premises to make an inspection. This man often reports that the difficulty is not with the Government telephone lines at all but it is with the subscriber's instrument and sometimes they try to correct the fault; if they don't succeed, he tells the subscriber that he has a bad set and they better take it up with the manufacturer that sold it to him. So the subscriber, he says, your set you sold me at such and such a time is defective. So the manufacturer sends a man out to make an inspection and he finds it isn't the instrument at all, it is the government wire, and that sort of difficulty has passed back and

forth a great many times, with the result that it has been a great loss to the subscriber and inconvenience to other subscribers that wish to connect with him. With the number of different types of instruments they have, it has been impossible to establish. It very often happens that conversation with one subscriber is very good and very often it is very poor. Now, in the Bell System in the United States, we proceed on the basis that standardization to give uniform apparatus and uniform methods are desirable in all places where conditions would permit. Standardization has many advantages. For one thing, it makes the best available for all. It renders available enormous supplies of material and labor in emer-What I mean by that is, that if there is a flood or a fire that wipes out a large amount of telephone plant that material from another section of the country's territory, or material that was destined for quite a different telephone company can be brought in and Also, men can be brought in from anwill fit in with the plant. other company and the materials and methods which they are working with will be the same as those which they were accustomed to at home. Standardization reduces cost because when all companies use the same thing, it can be made in the largest quantities. Standardization also reduces cost of stocks of material and the cost of maintenance and repairs because fewer parts have to be carried. Instead of having to carry parts for a dozen types of the same thing, it is only necessary to carry parts for one type. It reduces the cost of instruction of employees because there are fewer things

to get acquainted with. It reduces the cost of plant accounting and keeping track of the amounts of materials used. it can be said that the benefits of standardization go generally through the whole business. Now, in the Bell System in the United States, unless the General Staff existed to recommend standards, there would be a multiplicity of types for each of the thousands of pieces of apparatus comprising the telephone plant and the result would not be the same. I feel certain, in methods of operating, which would lead to a lack of efficiency and economy in many ways. Now, there is another benefit of standardization in that it makes our development work of new apparatus more feasible. What I mean by that is this, if every piece of apparatus differed from every other, there would be no tangible point of departure from which to start with something new, but if all the companies are using the same type of apparatus and it is possible to devise an attachment for it that would make an improvement, that attachment is attached to all of that type of apparatus. We don't have merely one standard for each thing and try arbitrarily to force the business into that mould, but we do have as many different standards as varying conditions require and we change our standards, the standards that we recommend whenever it is an advantage to the associated companies to do so. I think that we clearly recognize the fact that special conditions may justify a departure from any of these standards and in fact we give

a great deal of consulting advice to the associated companies on points where it may be well to diverge from any previous

standard to meet special conditions. Our staff has been doing this work of standardization for the Bell System for a great many Now, if it wasn't done for all of the associated companies together, each associated company would require a separate staff for standardization purposes and that would be a duplication around the whole country. There is going into the plants of the associated companies in a normal year about Seventy-five Million Dollars of materials, including central office and sub-station equipment, lead covered cable and other miscellaneous materials, just in material, well on an average in the whole system about Seventy-five Million Dollars' worth of material a year, to which the benefits of standardization apply. Now, it is impossible to say how much standardiza-It has been variously estimated, but if it only saved two tion saves. per cent of the cost of that material, it would amount to a Million and a half dollars saved to the entire system. Now, of course, in addition to that is all the saving that comes about from standardization in construction, maintenance and operating methods.

Q. What has been done by the general engineering staff on the

subject of switch-board development?

A. I think in introducing this subject that it is interesting to form a picture of what the telephone art in relation to switchboards was in the early days. In an 1879 telephone directory, the subscriber was

informed that all calls were ticketed and if the called subscriber didn't answer promptly, he was advised to wait 15 463 minutes before repeating his call.

Q. That is on local calls?

A. Yes, local calls.

(By Mr. D. A. Frank:)

Q. Fifteen minutes or fifteen seconds?

A. Fifteen seconds.

(By Mr. J. D. Frank:)

Q. They made out a ticket or each local call?

A. Yes, that was in the early days. Now, one step in the development of the switch-board, the step that brought in the so-called multiple board, saved on an average about ten cents on each call. Under present conditions that saving amounts to the equivalent of about three thousand years of subscribers' time saved in the United States.

(By Mr. D. A. Frank:)

Q. Just right there, Mr. Rhodes, what is about the average time on the local call, how do you arrive at this saving?

A. Why, that is b. ed on the previous operating practice before

the multiple board was introduced.

Q. But you gave us a statement there that at one time they had been warned to wait 15 minutes before repeating the call?

A. That was, if his call had not been answered.

Q. But, Mr. Rhodes, some of us don't understand about how long You don't mean to say now you have to it takes to get a local call. wait 15 minutes to get a local call?

A. No, I hope not.

Q. What would you consider from fairly good service for a cal- in the main exchange?

464 A. Why, I presume you get most of them in about four or five minutes.

Q. That is what I wanted to get in the record. It sounded like you were saying cutting down the time from 15 minutes.

A. No, I didn't intend to give that impression.

The first switchboards that were used were based on telegraph practice and one of the first switchboards provided for as many as The modern switchboard provides for approximately I won't take the time to go through the early historical de-10,000. velopment, but one of the very important steps was the development of the common battery switchboard in which the subscriber signals the central office by taking his telephone from the hook, and in which the condition of the call is made manifest to the operator by little electric lamps in the switchboard. In the early switchboard the signals were given by means of or drops which fell when the subscriber turned the crank of a hand generator. Those drops were followed by others which were raised automatically when the subscribed inserted a plug in the jack of the calling subscriber's line. The disconnected signals in the other boards were simply drops which were operated mechanically. The whole tendency in the switch-board development has been to render the operations of the switch-board more and more automatic, so that the step in the development from the so-called manually operated board to a type of board where the number of operators is reduced to a minimum and the subscriber makes his call by means of a dial is not in itself

465 an abrupt step in switch-board development but is the result of an evolution which has been going on for a great many years rendering the switch-boards more and more ne-rely automatic. Up to recently, it had not been found that there was any existing automatic system that we considered satisfactory in all respects in meeting the requirements necessary in our service to the public. There has been no concensus of opinion among engineers and manufacturers in favor of any one system. One switchboard manufacturer has advocated manually operated equipment; another one has advocated what is known as semi-automatic type of equipment, in which the subscriber gives his call to the operator in the same way that he does the manually operated system and the operator completes the call automatically; another company has advocated the full automatic system. A great many years ago, 12 or 15 years ago, we started intensively our development work on an automatic and semi-automatic switchboards and in the course of that time we have secured patent rights to all existing forms of automatic and semi-automatic switchboards offering any promise. When our development work had advanced to a point where practical field trials were needed, about five years ago, we installed two complete installations of automatic switchboard of several thousand lines each in service in Newark, New Jersey, where they have been under constant observation by our experts and have settled a great number of points that could not have been settled in any other way without

466 these large experimental installations. All that experimental cost has been, I might mention, borne by the American Telephone & Telegraph Co. We have reached the point where we are manufacturing automatic apparatus on a large scale and we have arranged with another large switchboard manufacturer to manufacture equipment, automatic equipment, extensively. It is being built as fast as factories can be erected and the special tools to produce it can be manufactured, and automatic equipment in the course of the next ten years will probably displace manual equipment very generally throughout the Bell System. At first, it will be used for growth in the system and to displace existing manual equipments where the conditions are such that by reason of the existing manual equipments being outgrown, that expensive and extensive changes will be required. It is going to be introduced as rapidly as practicable.

Now, in connection with the subject of switchboards there is one rather small point that is interesting as showing what the savings are. I am referring to the matter of connecting cords which are used before each operator's position. The A operators or subscribers'

operators have usually 17 pairs of these cords, each pair ending in a plug, which are used to complete connections in the multiple switchboard. At the incoming trunk switchboards, the B operators usually have 25 sets of single cords in which the trunks terminate. Now, the development work that we have done on these cords alone has

increased their life to fully six times what it was before this development work was carried out and that saving alone in cords in the Bell System amounts to more than Four Million Dollars a year.

Q. How long did those cords last before they were improved, that

is, in point of time?

A. Why, they lasted something like three or four months.

Q. How long in point of time?

A. And it was increased about two years.

Judge Powell: What cords are those?

Mr. J. D. Frank: That's the cords that the operators use at the switchboards.

A. (Continuing:) In much of the apparatus that is used in the telephone plant, there are delicate contacts through which the telephone current passes. Those contacts have to be made of expensive and very rare metals. They occur in the relays and in the keys. Platinum for many years was largely used for that purpose. At the present time platinum costs considerably over \$100.00 an ounce; only a few years ago it cost not more than 20 cents an ounce.

Q. Mr. Kelsey said it costs from ten dollars to twenty dollars an

ounce.

A. Well, I don't remember that it was ever as low as \$10.00, but it isn't now, There is now expended in the Bell System for these rare contact metals over \$100.00 every year for additions to the plant. In many of these contacts, we are employing substitutes which are made of less expensive metals. Now, the improve-

468 ment in those substitutes which are effective has required a great deal of testing, has required making machines in which contacts were closed millions of times and counted and the resistance of the contacts carefully measured to determine how they change with age. As the result of the use which we have been able to make of some of the substitute metals, it is a fact that if we had employed platinum entirely for these contacts instead of spending as we do now about a million dollars a year for these precious metals, we would have been spending over two and a half million dollars a year. So, there has thus been a saving of a million and a half dollars from The prices of many of these metals have gone up so that it is characteristic of this development, as it is of some others in our plant, that the work that we have done has prevented the cost of apparatus from rising to anything like the degree that would have been the case if these developments had not been made. There is another point that I would like to mention in that development, if it is not Can you run on a little further?

The Master: Yes, sir.

A. (Continuing:) One of the typical pieces of apparatus in the switch-board is what is known as line and cut-off relay. One of these pieces is associated with every subscriber's line in the common battery board.

469 Q. Have you a photograph of that? A. I have a photograph of that.

Mr. J. D. Frank: I will offer that as Plaintiff's Exhibit No. 82.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 82, Witness Rhodes," and is filed herewith.)

A. (Continuing:) I have here the new type of line cut-off relay and pictures of those.

Mr. J. D. Frank: We offer the picture as Plaintiff's Exhibit No. 83.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 83, Witness Rhodes," and is filed herewith.)

A. (continued). Now, the line relay operates when the subscriber removes his telephone from the hook to close the contact and light a lamp which attracts the operator's attention. The cut-off relay operates when the operator inserts a plug into the jack and causes the line lamp to be extinguished. Those two relays of the early type were used prior to about 1912; they were standard relays for that purpose; they are mounted on racks, one strip above another, and there may be 10,000 of them in a large office. They are a very im-

portant part of the central office equipment. Now, that new 470 relay of the flat type, which takes its place, is quite a different structure. It is not only smaller and more satisfactory in operation, but it costs about 25% less than the type that was used before. I mention this development because it is characteristic of one place of our development work. The original idea of this new type of relay arose in the mind of a man in the Western Electric Company, the manufacturing branch. As soon as that idea could be reduced to definite form, it was talked over with our engineers of the General Staff. We considered whether a relay of that design would be an advantage to the associated companies. If it was, we wanted to take it up, develop it, and recommend it as standard; otherwise, not. We recognized that it was a promising suggestion and we directed the Western Electric Company to proceed with the mechanical development of that relay. From then on, we kept closely in touch at all times with them so that the knowledge and experience of our apparatus experts, from an operating standpoint, would be incorporated equally with their experience as designing and manufacturing engineers in producing a new relay.

Now, when the new relay was developed so that the mechanical experts were satisfied with it, we took a considerable number of those relays and made tests of them, causing them to operate hundreds of thousands of times and equipping them with counters to count the number of times that they operated and we found that that type of

relay as developed possessed a defect which if it had been placed in service would at the end of a short time have begun 471 to increase the maintenance expense to the associated companies very considerably and would eventually have resulted either in a continued high maintenance on the piece of apparatus or have caused removing it and substituting something else for it, so that instead of improving that piece of apparatus as it then stood, we took it up further with the designing engineers and pointed out what was wrong and went out with them and improved it. They worked along the lines that we indicated and the lines that we suggested from time to time and came back with another form of it, which is this form that you see here, and that was put through a very rigid series of tests and it was found that it was very satisfactory and gave superior satisfaction to the type of relay that had been used before and it immediately begun to save the associated companies one hundred thousand dollars a year in the first cost of relays that they were adding to their plant.

Q. Did you have any other exhibits with reference to that?

A. I don't think it is necessary to show them. I had some strips of these relays if you think it would be interesting.

Q. Mr. Rhodes, will you give some account of the development of

the substation apparatus?

A. There is so much ground to be covered I will be very brief, if you will allow me, on that subject, and simply say there is a large amount of work constantly going on dealing with improvement of substation apparatus and methods of connecting and install-

472 ing it. That work has been crystallized in a series of handbooks dealing with substation apparatus, the method of installing it, the circuits and connections used in substation wiring, and the adjustment of substation apparatus. I have seven of these typical handbooks, if you wish to introduce copies as exhibits.

Q. These are designated as Specification No. 3851, etc.?

A. Yes, sir.

Mr. J. D. Frank: We offer Specification No. 3851 in evidence as Plaintiff's Exhibit No. 84.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 84, as requested.)

Mr. J. D. Frank: We offer Specification No. 3852 in evidence as Plaintiff's Exhibit No. 85.

(Thereupon said exhibit was received in evidence, and marked as Plaintiff's Exhibit No. 85, as requested.)

Mr. J. D. Frank: We offer Specification No. 3853 in evidence as Plaintiff's Exhibit No. 86.

(Thereupon said exhibit was received in evidence, and marked as Plaintiff's Exhibit No. 86, as requested.)

Mr. J. D. Frank: We offer Specification No. 3854 in evidence as Plaintiff's Exhibit No. 87.

(Thereupon said exhibit was received in evidence, and 473 marked Plaintiff's Exhibit No. 87.)

Mr. J. D. Frank: We offer Specification No. 3855 in evidence as Plaintiff's Exhibit No. 88.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 88, as requested.)

Mr. J. D. Frank: We offer Specification No. 3856 in evidence as Plaintiff's Exhibit No. 89.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 89, as requested.)

Mr. J. D. Frank: We offer Specification No. 3857 in evidence as Plaintiff's Exhibit No. 90.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 90.)

Q. What did you say these bulletins are, Mr. Rhodes?

A. They cover the approved modern standards with regard to substation apparatus, and the methods of installing wiring and connecting it for substation apparatus; maintaining apparatus and circuits at the premises of the telephone user.

Q. Those are sent out to the Associated Companies for use in the

installing of apparatus, are they?

A. Yes; placed in the hands of the substations installed.

Q. Is that all you had to say on the development of substation apparatus?

A. Yes, sir.

474 Q. What is the General Engineering Staff doing with ref-

erence to building plans, if anything?

A. There used to be a time when telephone switchboards were small and light and could be put in almost any kind of building; the telephone company could go out and lease quarters anywhere and put the equipment in any old building, but that was a good many years ago. Now at least the more important telephone buildings are designed with reference to the building fitting the equipment

rather than forcing the equipment to fit the building.

In connection with this matter the General Engineering Staff has given a great deal of thought and investigation, and has made a great many studies of the best arrangement of apparatus within buildings, and the best arrangement of the buildings themselves. There is a matter of arranging the buildings so that they may be economically extended at a later date. As the central office equipment grows, additional building space is required, and under a great many conditions it is more economical to build the building small at first and put in part of the equipment, and arrange all the equipment to grow toward the back of the building, and later remove the wall of the building and add to it so the equipment can go into it without expensive changes and rearrangement.

Among the features that have been taken into account in designing buildings and the arrangement of equipment so that it may be conveniently operated and maintained, and so that the light-

ing and supply of air are satisfactory, the matter of floor 475 strength has to be considered; also the problem of minimizing the fire hazard, both from external and internal sources; consideration is also given to the safety of employees in case of fire, and attention is given to future expected changes in the type and weights of apparatus, and such problems as how best to bring in the cables from the underground system to the main distributing frame, and the arrangement of the cable between apparatus. What we have tried to do is to develop various typical floor plan arrangements of buildings by means of which the Associated Companies may be able to easily determine what size, shape and arrangement of buildings, and the arrangement of the equipment within the building, would be best for them to employ in a specific case, without themselves going over all of the details to work it out for each specific case. These plans that we furnish the Associated Companies deal with the building as an equipment proposition, and not as an architectural proposition. The Associated Companies employ a local architect, as a rule, for their buildings, but we place in the hands of the Associated Companies, so that they can take up with their architect, these typical floor plans, and also information specifically adapted to telephone buildings furnished them by circular letters. When they build a new office, or have their architect prepare plans for a new building, they have this information to guide them, and to assist them in determining what arrangement they shall make. 476 not necessarily use any one of these specifications exactly, al-

though in a great many cases they do, and frequently consult with the building expert of our General Staff in regard to any question coming up dealing with a particular building, which they may have to erect. The plan of consulting with our engineers is a common one. It is within the judgment of the engineer of the Associated Company whether he should so so, or not. In many cases the engineer of the Associated Companies will ask at the beginning of the building of a plant what we would suggest in the way of floor plans to use space economically for the proper working of the apparatus for his particular situation, and in such a case they may specifically consult our engineer for advice. Sometimes the engineer of the Associated Companies will prepare plans and ask our engineers to comment on the arrangement, which they have made. In other cases they will ask us to suggest floor plans ourselves.

Q. Is there any duplication between the work performed by the engineers of the General Staff and the architect of the local company

in laying out buildings like the Preston building?

A. The work, we do with the telephone company's engineer deals with what might be called specifically the engineering feature, and has to do with producing an economic and convenient arrangement of the apparatus—if I may explain that—we deal with the telephone

business from the standpoint of the building being a factory for producing telephone service, and we deal with the mechanical arrangement of the building, whereas the architect deals

with it from the ordinary building standpoint.

Q. With reference to the service performed by the engineers of the Associated Companies in these building plans, and the service performed by the engineers of the General Staff, is there a duplication there between the two, or are they simply working together for the purpose of getting the best plan they possibly could?

A. They are working together in co-operation, and the engineer of the Associated Companies will leave to us questions upon which he may be in doubt, and upon which he would like to know from

our national experiences would help him.

Q. You are constantly working on these problems throughout the United States, and having questions coming up frequently, and your engineers have broad experience on those lines?

A. That is true.

Q. Is it necessary for a telephone company in constructing a central office building like the Preston building, to take more precaution to guard against fire than would be required in ordinary business?

A. As a rule I think that would be true. We undertake to obtain the greatest possible degree of fire protection not only to guard against interruptions to the telephone service, but to safe-478 guard to the greatest degree possible the liability of the employees in the building; we take all the precaution that can

be thought of in a case of that kind.

Q. You have been through this building here, have you, Mr. Rhodes, and know in a general way, what equipment is stored in the building?

A. In a general way; yes.

Q. If this building and equipment should burn down, it would take something like six months or a year to restore the equipment we had, and put it in working order again?

A. If it were a total loss?

Q. Yes.

A. Yes: I would say it would take nearer a year than six months.

Q. And of course service would be considerably impaired during that length of time?

A. That would affect it to a large percentage, that is, if these build-

ings and the two operating units were wiped out; ves.

Q. That goes to show the necessity and importance of taking the proper precaution to guard against destruction of the property by fire?

A. I think so.

Q. I wish you would please give us a brief description of the work

of the staff on outside plant development.

A. All that I have said with reference to the general 479 methods of development and standardization in other branches of the work applies with equal force to the outside plant, and the materials used in its construction. Our General Engineering Staff maintains a corps of experts who are devoting all their time to the outside plant, which is a peculiarly important part of the telephone plant, on account of the great amount of money now invested in it, and the large annual additions that are required to take care of the growth of the business. If each Associated company built its outside plant without regard to standards carefully developed at the result of engineering studies, there would result a diversity and an economic waste. Such items are involved as the stoutness and foundation of poles, the amount and character of the guying, the design, dimension and strength of each one of the many articles of pole line hardware, such as pole steps, guy strand, guy rods, guy clamps and anchor rods. The designs of each one of the detailed articles entering into the construction of the outside plant on a telephone exchange are all worked out, based on obtaining the proper strength and economic life. The specifications for these various kinds of material are based on careful study, laboratory tests, breaking strength tests made in testing machines,-in many cases artificial aging tests are made, as between different methods of applying galvanism to determine within a short time the relative

ability of different metals, and the process for the resisting

480 corrosion.

In many cases in the strength of guving and strength of poles we make the trial on a full sized specimen of apparatus. Just to illustrate one phase of the work, we have for a great many years devoted careful attention to the preservative treatment of wood. We have made a series of continuous and exhaustive experiments extending over many years. A large volume could be written on this one subject alone, dealing with the character and quality of the preservative materials, details of the impregnating processes, various treatments for different classes of timber, the pole technique and the economics of the entire situation have been carefully studied and the Associated Companies furnished with valuable data and specifications. I might mention that the United States Forestry Service has joined with us in some of this work, to obtain the benefit of our experience and facilities for conducting experimental trials. We have placed many thousands of experimental poles in parts of the country where rotting of timber goes on rapidly, and at intervals of every few years those poles are carefully examined; the earth is excavated away at the ground line and measurement made with great care of the amount of sound wood remaining.

While we are on the subject of poles, for a good many years the price of wooden poles has been rising. While conditions at the present time do not justify the use of a different type of pole, we have anticipated that at sometime a reinforced concrete pole might be

constructed to take the place of the wooden pole. If that time should come, we want to be prepared to advise the Associated

Companies as to the best type of concrete pole to use. A few years ago we constructed about 500 reinforced concrete poles of different designs and set them in various parts of the country, and their behavior under the conditions of the practice is being carefully observed. There has been some doubt as to what will happen,—whether they will be more or less immune to injury from lightning has not been known; furthermore the possible effect of water getting

into minute cracks of the concrete and freezing, thereby injuring the concrete, was not known. We have been following this matter up with the idea that at some future date we want to be in a position to advise the Associated Companies as to the best type of reinforced concrete pole, based on actual experience.

Q. As a matter of testing out these concrete poles you have a fair example of the work of the General Staff in anticipating future

needs of the associated companies?

A. That is what we intend to do in all branches—yes.

Q. And whenever the emergency comes you will be prepared to

assist them immediately?

A. Yes; and we want to be prepared, and have that preparation based as far as possible on facts developed from actual experience rather than resting purely on theoretical investigations.

In what I have just said—I have used poles as an ex-

ample—similar work is done regularly in regard to underground conduits, underground cables, aerial cable, distributing plant, twisted pair wire, and cable terminals. These matters are continuously studied specifically, and all necessary information for constructing the plant is put in the hands of the Associated Companies. We undertake to give them advice as to the best practice, and where it is useful to put this handbook in their hands; we do this in this branch of the work as well as in all others. I

have some of the typical handbooks covering these poles of the exchange outside plant.

Q. This is simply on underground conduit construction?

A. Yes, sir.

Q. And is known as Specification 3613?

A. Yes, sir.

Mr. D. A. Frank: We offer that exhibit in evidence as Plaintiff's Exhibit No. 91.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 91.)

Q. The next pamphlet is on the subject of drop wiring, and is specification 3930?

A. Yes, sir.

Mr. J. D. Frank: We offer that exhibit in evidence as Plaintiff's Exhibit No. 92.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 92, as requested.)

Mr. Rhodes: In connection with that exhibit I would like to say that the few sheets printed on yellow paper at the back includes those methods which I mentioned yesterday as devised to meet special conditions which threatened to grow out of the war, when the supply of ordinary wire that had been used before that time was required for the use of the American Expeditionary Forces.

Q. The next pamphlet is on the subject of underground cable placing, and is Specification 4032?

A. Yes.

Mr. J. D. Frank: We offer that exhibit in evidence as Plaintiff's Exhibit No. 93.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 93, as requested.)

Q. The next one is on aerial cable construction, designated as Specification No. 3929 which we offer as Plaintiff's Exhibit No. 94.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 94.)

Q. The next is on outside cable placing, designated as Spec-484 ification No. 3933, which we offer in evidence as Plaintiff's Exhibit No. 95.

(Thereupon said Exhibit was received in evidence, and marked Plaintiff's Exhibit No. 95, as requested.)

Q. The next one is on the subject of block cable construction, known as Specification No. 3931, which we offer as Plaintiff's Exhibit No. 96.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 96, as requested.)

A. Now before leaving that subject I have one more handbook which illustrates the stroke of another side of the work. This deals with the instructions for administering first aid to employees who may be injured in the conduct of the business. We took this up with competent physicians, and did a large amount of work in arriving at the best first aid instructions.

Q. That is known as Specification No. 4018, and we offer it in

evidence as Plaintiff's Exhibit No. 97.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 97, as requested.)

Q. Those pamphlets on first aid are placed in the hands of all construction foremen, are they not?

A. That is the general practice of the Associated Companies; they

do that; yes.

485 Q. Mr. Rhodes, is there anything else you want to say on that subject—subject of work of the staff, on outside plant development?

A. I think that is sufficient to give a general picture of the work.

Mr. D. A. Frank: I have a question or two to ask on poles. The testimony in this case shows that the main supply of poles we get for this territory comes from Michigan—white cedar—you might give us your specific knowledge with reference to it. Do you know whether the supply is diminishing?

A. Yes: the supply of wooden poles is diminishing. It takes about 150 years for an average sized cedar pole to grow to suitable size for a pole. That in itself indicates a general tendency toward depletion of the supply. One of the questions we are studying now is what we may expect over the next ten years in regard to the future demands for poles, and the supply, in order that we may know whether we will require substitutes for timber within five, ten or fifteen years, and so direct our experimental work that we will have the result at the required time.

Q. How long does it take a pine tree to grow to be big enough

to be a telephone pole?

A. I do not have that in mind—a chestnut pole, which is used

widely in other parts of the country, takes about 60 years,

Q. I think the pine is close in around that time. There are a great many pines in Eastern Texas and Louisiana, a great forest of small pine trees, is there not? 486

A. Yes; I think so.

Q. Has the General Staff done any work with reference to preparing the pine tree to make poles?

A. No. Of course,-I don't quite get you.

Q. I mean did the General Staff do any work towards fixing the

pine tree so it would last?

A. Oh, yes; this work on preservative treatment I have described applies peculiarly to a yellow pine pole; a yellow pine without treatment is a short life.

Q. Will last only 3 or 4 years?

A. Depending on the condition of moisture and warmth of the climate.

Q. After treatment how long will it last?

A. We have some that have been in service between 25 and 30

Q. They last longer than cedar poles?

A. Yes. I do not know that that would apply in this section of the country, but those I have in mind we have had the longest experience with were in Virginia.

Q. Why haven't you used creosoted pine poles in and around cities more largely than they are used? What objection is there to use -

in a city?

A. For one thing the creosote under conditions of exposure to the sun will soften and become rather messy, and the body of it is

likely to spoil the clothing of one coming in contact with 487

Q. People are likely to get their clothes ruined, and the men climbing the poles will get theirs ruined? A. That is true.

Q. But for a pole in out of the way places and for long distance lines, it is practical to use pine poles?

A. They are used for that purpose.

Q. You do not see any immediate relief by increasing the supply

of cedar poles, do you?

A. No; the supply in Michigan is getting to be rather scarce and most of the poles now are coming from northern Minnesota; there are cedar poles in considerable quantities in Canada, but there is a duty on them which makes the price unusually high.

Q. Is that due to a levy by the United States Government, or an

export duty by Canada?

A. I do not remember which.

Q. The duty is sufficient to keep you from using the Canada poles?

A. My impression is it is about 30 percent.

Mr. J. D. Frank: In connection with these pamphlets you introduced—or handbooks which you introduced in evidence here, is that all the handbooks which you have or is it just some of the books issued by the company—

A. These are only for illustration. We have a considerable number of others which I did not bring down. By the way,

I omitted one that is of interest, which deals with the precautions in the way of separating wires and obtaining clearances in what we term joint use construction, where telephone wires occupy the same poles as electric light wires, in the case of the distributing electric light systems, and employing 2400 volts and less, both primary and secondary, it is advisable to use poles jointly between telephone circuit and electric light circuit, and these specifications cover approved methods of construction in that case.

Q. That is known as Specification No. 3921, replacing Specification No. 2651, which we offer in evidence as Plaintiff's Exhibit No.

98.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 98, as requested.)

Q. Why is it necessary to go to great pains in seeing that those wires are properly strung on the poles where you have electric light wires?

A. In order to safeguard the lives of employees working on the poles and to safeguard lives and property of the telephone users.

Q. There is a question of electrical interference with the operation of telephone lines entering into this work?

A. It is covered in that specification; it covers the method of safe construction. The question of interference is cared for by special methods of transposing the telephone wires.

Q. I wish you would take up and describe the work done by the General Engineering Staff guarding against disturbances in

high tension wires?

A. The question of noise and interference with telephone conversation from neighboring electrical wires and power wires is a very serious and important one, owing to the fact that the telephone is such an exceedingly delicate and sensitive piece of apparatus. The voice currents used in telephone transmission are the smallest and weakest that are used in the electrical art.

Q. About how many volts of electricity pass over the ordinary

telephone circuits?

A. Only comparatively few, but I think the best measure of that is brought about in this way: The energy expended in operating the diaphragm of the telephone receiver in an ordinary conversa-

tion is about one two millionths of the energy expended in an ordinary 16 candle power electric lamp. Furthermore the energy required to create an audible sound in the telephone is only about one one millionth part of that one and two millionths.

Q. You mean that the energy expended in the 16 candle power

lamp would be equal to-

A. Yes, to the energy expended in an ordinary conversation by telephone. Looking at it in another way, it has been calculated that the energy required to vaporize a drop of water would maintain an audible sound in a telephone receiver for about

15,000 years. Now with the introduction of a commercial system of electric lighting, the disturbances on telephone circuits became so great that important work had to be done in order to give commercial telephone service, our General Staff has worked on that problem from the very early days of the business, devising methods of transposing wires, and of arranging methods and testing the wires together in cables to preserve the lines. After any advance that has been made in electric lighting power and relative current transmission has changed and increased the difficulty of maintaining the telephone line quiet, and has required some modification of the telephone system. We have kept a case with these developments in the light and power circuits, and have devised methods for maintaining the telephone circuits quiet. Closely associated with this question of inductive interference, and I would like to make it clear that this interference is due in no way in many cases to the actual leakage of the power current into the telephone wire, but is purely a magnetic action through space, due to the fluctuating light or power current inducing a current into the telephone circuit. Closely associated with this question of maintaining lines guved

has been the question of minimizing the hazard to the telephone subscriber and the telephone client from possible accidental contact with these high tension wires, with the tele-

phone wires.

This problem of protection against high tension currents has been attacked in two ways, one by the development of protective apparatus placed both in the subscriber's station and the central office, and second in the case of protection against the enormously high voltages which are used at the present time for power transmission by developing proper methods and rules for construction where two classes of high tension circuits and the telephone circuit are necessarily brought into proximity, developing construction rules, to make the construction of adequate strength, so as to reduce to a minimum the possibility of actual physical contact between the wires.

As illustrative of the difficulty brought about by some of these power transmission systems, I might mention the case of the electrification of a railroad, where eleven thousand volts single phase alternating current was employed. When this electrified railroad was first placed in operation, it caused violent disturbances on telephone lines in the vicinity,—and by vicinity I mean that lines five miles away were put out of business, a one-line telephone line five miles

from the high tension line. A highly balanced underground cable in a conduit beneath a highway alongside the railroad had voltage induced on its wires sufficient to run an ordinary electric description of the Associated Companies, in whose territory this project had been

installed.

We took the matter under active consideration and applied measures which produced partial relief, enough to enable telephone companies to give service in the vicinity of the railroad, but our first

solution was by no means completed.

We employed experts in the electrification of railways to work with our general staff engineers, and the leading engineer on that kind of work in England was brought over to help us in solving that problem. The final complete solution has involved changes in the electrified system of the railway itself.

This work is now available for all of the Associated Companies, where he may have a similar railway electrification taking place

in his territory.

Q. They also received the assistance and advice of the general staff in connection with the high tension wires used by electric light

companies in this territory?

A. Yes. There was an interesting case in point right there. Several years ago the associated companies operating on the Pacific Coast experienced difficulties due to the noise on its circuits from the presence of high tension transmission wires. The use of these high tension wires was developed to a large extent on the Pacific

Coast before elsewhere in the country. The matter came to 493 the attention of the State Commission, and there threatened

to be a contest between the power transmission companies and the telephone companies. A representative of our general staff who was skilled in this matter from the engineering side went out to the Pacific Coast, and through his efforts a Committee was formed, having on it a representative of the State Commission, the Power Companies and the telephone and telegraph Companies. decided to make a comprehensive study of the whole question of inductive interference and obtain facts that had never been before The telephone part of that work was directed by a rep-We had one of our engineers stationed on resentative of our staff. the coast for about five years continuously, and several other engineers made trips for a long time cooperating in this work, and the results have since been published by the Railway Commission of California, and have been a distinct contribution to the knowledge on the subject of inductive interference. The telephone part of that work was carried on by our staff of engineers.

In regard to other questions of dealing with the realtion between telephone lines and high tension lines we have had a great many conferences and debates with representatives of electric light companies and individuals, to reach an agreement with them as to what is really the right thing to do where the interests class. We have

people who are doing that work right along.

I think it would be of interest to read a brief paragraph from the October 1917 Bulletin of the National Electric Light Association, which is an Association of the principal electric light companies in the United States. They have committees and hold a convention each year. This is a report of the electric light association committee on overhead line and inductive interference. They say:

"The committee is endeavoring to establish a connection with a representative in every state to keep the committee fully advised of the progress of all matters in his state relating to overhead lines and inductive interference. The advantages gained by the telephone and telegraph companies in having their interests represented by the same experienced engineers, no matter there the issue arises, are great."

I think that is a tribute to our argument, and to our methods of conducting this matter, from some people on an opposite — of the case from us.

Q. I wish you would tell briefly about protector development, and

work on the National Board of Fire Underwriters?

A. On this question of protector, in the Bell system it is a standard practice to place a protector at all subscriber stations where the lines are exposed to lightning or accidental contact with electric light or power wires. In order to protect the telephone subscriber, and his property, adequately it is necessary to use a sensitive protector. Protectors os the necessary sensitiveness have been available heretofore, but they have been sources of a certain expense for their maintenance, and of more or less interruptions to service after a heavy lightning storm.

The General Staff has been working a number of years on development looking to the production of the protector which

would avoid these objections, and within the last year we have devised and made available to the Associated Companies a substation protector in which the cost of maintenance is very materially reduced over what had been the case in the previous types of protector.

In regard to the installation of protectors at central offices and subscriber stations, I have a few typical handbooks dealing with this matter.

Q. The first one is Specification No. 3882, entitled "Main Frame Protection"?

A. Yes.

Q. We offer this specification No. 3882 in evidence, as Plaintiff's Exhibit No. 99.

(Thereupon the said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 99, as requested.)

Q. And the next is entitled "Main Frame Protection, "B" Type Frames"?

A. Yes.

Mr. J. D. Franks: We offer this specification No. 3881 in evidence as Plaintiff's Exhibit No. 100.

(Thereupon the said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 100, as requested.)

Q. The next one is Specification No. 3850, designated as Substation Protector Installation?

A. Yes.

496 Mr. J. D. Franks: We offer this Specification No. 3850 in evidence as Plaintiff's Exhibit No. 101.

(Thereupon the said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 101, as requested.)

Q. The next one is Specification No. 3918, designated as Substation Protection, Including Private Branch Exchange?

A. Yes.

Mr. J. D. Franks: We offer this Specification No. 3918 in evidence as Plaintiff's Exhibit No. 102.

(Thereupon the said exhibit was received in evidence and marked Plaintiff's Exhibit No. 102, as requested.)

Mr. Rhodes: Your question I think also referred to the National Electric Code of the National Board of Fire Underwriters. This Code prescribes the rules and methods to be followed wherever electrical construction is undertaken in a building which might affect a fire hazard insurance by any insurance company in the United States. The Code is amended every two years. One branch of our General Engineering Staff is constantly following this Code study of development pertaining to our work, so as to be ready at the proper time to lay before the National Committee any and all facts and arguments necessary to guide them in their work respecting matters affecting the interests of the Associated Companies. In this way we co-operate harmoniously with the insurance authorities and other national bodies in the preparation of a reasonable set of wiring rules with a minimum hazard to the associate companies.

497 Q. What does the staff do in regard to protection of underground telephone electrolysis? First tell us what you mean

by electrolysis.

A. Electrolysis is the term applied to the destruction of underground metallic structures. By the return currect from street railway track systems, if suitable precautions are not taken—it acts to injure and ultimately destroy the underground cables of the Associated Companies. The subject of electrolysis and protection against it has been studied many years by our General Engineering Staff, and the Associated Companies are kept advised as to the best and most effective methods for guarding against it.

At the present time there is important work under way looking to improve methods of preventing or minimizing dangers from this source. Representatives of our General Staff are co-operating with

representatives of other utilities through the American Electrolysis Committee where these proposed new methods are being carefully ex-

amined and looked into.

In connection with obtaining the maximum information on this subject, shortly before the way in Europe started in 1914 one of the Engineers of our General Staff visited England and the continent of Europe and spent considerable time investigating foreign practices in regard to electrolysis prevention.

Q. Does the electricity have an effect on the cable somewhat

similar to the effect of acid when poured on a cable?

A. It has this effect: The cable affected by electrolysis has a general pock marked effect; you can see where pieces of metal have been actually torn away, and a tendency to concentrate certain

498 parts of the sheath, and if it progresses far enough the metal will actually be carried away and an opening formed which will allow water in the cable, and that rapidly destroys its usefulness, and that is the problem which confronts the telephone company here in Houston, and the Associated Companies everywhere in cities where there is a direct current trolley railroad installation.

Q. I wish you would describe briefly the work of the general staff on commercial engineering, and describe what that term means.

A. I will be brief about that and simply say that work covers advice to the Associated Companies on the management of their commercial departments. The records and supervisory reports used in the commercial departments deal with their directory practices and this department collects, collates, analizes and disseminates useful information as to rate practices in general.

Q. A few moments ago you spoke of the insurance department.

What work is done in that department by the general staff?

A. The American Telephone & Telegraph Company maintains an insurance department for the benefit of the Associated Companies, cooperating with the general engineering staff in working out standard alarm and standard type construction for telephone buildings and standards for the maintenance and inspection of these buildings as as to reduce fire risks to a minimum, and insure a maximum of safety to employees and the telephone service; studies the best type in fire extinguishers, and recommends the best kinds and quantities of fire fighting apparatus in general; all building plans that are taken up by our staff are carefully examined from a fire protection stand-

point, including such matters as properly safeguarding exits.

499 and generally protecting the lives of employees from fire and smoke. The Associated Companies are at all times advised

as to the best practice in fire protection and inspections from a fire protection standpoint are made from time to time of buildings of the Associated Companies, and advice given as to improving conditions if any defects are found.

Q. And whenever the fire hazard is reduced, that of course results

in a saving in the matter of insurance?

A. It does.

Q. Mr. Rhodes, I wish you would indicate generally the amount of work the General Engineering Staff now has on hand, A. In what I have said heretofore, I have mentioned only a few out of a large number of engineering studies, projects and developments which have been successfully carried out by our Staff, for the benefit of all of the Associated Companies, including the Southwestern Telephone Company. I have a list of some of the instances of work completed. I have listed a number of them by subjects only, and work is also on hand for more than three hundred other subjects. These subjects as listed were covering problems dealing with plant matters only. I have not included traffic or commercial problems, but think this list of subjects gives a fair general picture of the range of the work we have on hand.

Mr. J. D. Franks: We offer this (list) in evidence as plaintiff's exhibit No. 103.

(Thereupon the exhibit was received in evidence, and marked Plaintiff's Exhibit No. 103, as requested.)

Q. Have you another list giving examples of work completed?

500 A. I have.

Mr. J. D. Franks: We offer that (list) in evidence as plaintiff's exhibit No. 104.

(Thereupon the exhibit was received in evidence, and marked Plaintiff's Exhibit No. 103, as requested.

Q. Can you refer to a few special cases showing examples of the engineering work done by the general staff specifically for the Southwestern Telephone Company in the State of Texas, and for Houston?

A. I can.

Q. I wish you would do so.

Q. Yesterday I described the subject of fundamental plans and commercial service which precede the fundamental plan of work. Our Engineering Staff experts on the subject of commercial service have visited Texas and co-operated with the engineers of the Southwestern Telephone Company in making commercial surveys for Dallas, Ft. Worth, and two for San Antonio. On that work nine different engineers from our staff were engaged, and they spent in all a total of 708 days.

In 1911 a commercial survey was made of Houston and the surrounding territory to serve as bassis for a fundamental plan. The direction and character of development of Houston was peculiarly uncertain at about that time on account of changing conditions affected by the ship canal. For this reason when conditions became somewhat more clearly established, a new survey was made in 1914,

as a basis for another fundamental plan. Our general staff 501 engineers advised, co-operated and assisted in those commercial surveys. All told, five engineers spent a total of 308 days in Houston on that work. In addition to that time actually spent in Houston, a considerable amount of time was devoted by our engineers in considering for them details of the Houston service, both in New York and at Dallas. Four different fundamental plans have been made for Houston, and I might say that it is the general custom to make these fundamental plans at rather frequent intervals whenever an important addition to the plant is contemplated in order that

the best estimate of the future can be made.

Plans were made for Houston in 1904, 1906 and 1912, and those plans were made entirely by the general engineering staff. Another plan has since been made in 1915 by the Southwestern Telephone Company engineers, following the methods devised by our general engineering staff, and this 1915 plan at the request of the Southwestern Telephone Company engineers was reviewed by our engineers after it was completed. In 1915 the Southwestern Telephone Company engineers made a transmission study for Houston to determine the most economical gauges of wire to use in subscriber and direct cables, making use of methods developed by our general engineering staff. One of the engineers of the Southwestern Telephone Company came to New York last September for a stay of several weeks to familiarize himself with the latest development in methods of making fundamental plans, particularly with reference to management of switches.

Q. What do you mean by management switching?

A. The term applies to the ordinary method of operating switch-boards. Outside of the City of Houston we have co-operated with the Southwestern Telephone Company in making 25 fundamental plans of different places in the State of Texas. We have advised the Southwestern Telephone Company in regard to many of their more important telephone buildings which they have erected or made additions to. Before this Preston Building was built the engineering details were taken up with our staff and advice given in regard to them. We have advised the Southwestern Telephone Company in regard to information on desk, trunk, circuits for the Preston Office. We have advised them regarding special private branch equipment for Houston, also regarding battery reserves and

I will only mention a few of these typical examples unless you wish more.

Q. Just a few will be sufficient.

Q. The engineers of the Southwestern Telephone Company have been over recent years repeatedly coming to New York for conferences at St. Louis with the general engineers of the Southwestern

charging generators, and methods of power supply for repeater offices.

Telephone Company.

In regard to the inspection of buildings, the insurance department has made in recent years 88 inspections of 31 buildings in the State of Texas, including 10 inspections of the three buildings in Houston. We have given the Southwestern Telephone Company advice in regard to sub-station equipment, telephone booths, including sound-proof features and in regard to special lamp receptacles to be used in electric light circuit, with a folding door tight in booth. We have advised them regarding the effect of telephone transmission, using special type attachments in telephone receivers at sub-stations.

On the subject of outside plant, we have given advice on the best and most effective methods of attaching and terminating twisted pair wires. In various cases we have given informa-503 tion regarding crossings of high tension wires over telephone We have advised them in regard to the use of special pothead wire, in regard to the best type of cable racks and hooks; in regard to certain improved types of aerial cable rings, with advice as to the patent situation pertaining to those particular rings; have given advice on the best methods for first aid. I only mention a few of these to illustrate the general nature of the work. the heading of transmission and protection we have given them data on the transmission efficiency of various types of circuits and apparatus which has been of fundamental value in the design of and construction of telephone plants in Houston, San Antonio, Fort Worth and Dallas, and in other parts of the territory, and as to obtaining the most satisfactory transmission in the best and most economical manner. At Houston, among other places in Texas, installation of repeaters have been made, and our General Engineering Staff has furnished a complete drawing and specification necessary for the installation of this equipment, and expert engineers of the American Telegraph & Telephone Company spent several months in Texas supervising installation of these repeaters.

We have given the Southwestern Telephone Company information regarding the use of a new type of inductance bridge for making measurements of telephone currents. We have given advice as to the best methods of transposing lines and protecting aerial cables from the effect of lighting and high tension crossings on open wires connected with them; on the proper construction and protection of lines subject to peculiar exposures from the wires of electric rail-

ways and power companies; in special cases we have given advice as to the best means of overcoming inductive interference from paralleling high tension lines, and I have a record of numerous visits that their engineers have made to the headquarters of the Southwestern Telephone Company dealing with these matters. For instance in June 1918, give engineers of the General Staff spent several days in St. Louis at a conference on transmission maintenance in the Southwestern system, which was attended by engineers from the Southwestern, including representatives from Texas, and these men from our General Staff presented information and read papers on the transmission subject which took up a large part of the conference program, and there have been a good many meetings of that sort, but I think this is enough to furnish a general picture of the close contact they maintain with us.

Q. You spoke of some of the engineers spending I believe 308 days at Houston in connection with certain studies. Was any extra charge made to the Southwestern Telephone Company for the time they spent here, only their expenses?

A. No; their salaries and traveling and living expenses while here

were borne by the General Staff.

Q. And that is true with reference to those conferences,—the members attending,—in this territory?

A. O yes; the expenses of the General Staff people are paid by the Staff.

Q. Why is it necessary to have those studies made with reference to fundamental plans? I wish you would take that up a little more

fully than you did.

A. In order that the extensions to the telephone system can be planned so that the entire system as it grows, will grow as a harmonious and properly co-ordinating plant, otherwise you might have one portion where you would have too much,

and another where too little, and the main cable lime would not fit back to the office buildings in the most direct way, and would have a more or less helter skelter arrangement, whereas by plan you are sure of a reasonable and co-ordinated plan whem extensions are made.

Q. Then it also results in a great useless expense, if you made serious mistakes in construction to take care of future additions?

A. Yes; there is always some hazard in building for the future; no one can predict accurately what the growth is going to be, fundamental plans enable us to minimize the hazards due to growth and in general to avoid large waste expenditures.

Q. You mentioned patents a few moments ago. Explain how telephone patents are handled by the American Telegraph and Telephone Company for the benefit of the Associated Companies?

A. The patents of the Bell system are held by the central organization for the benefit of all the Associated Companies. The Associated Companies are charged no royalty for the use of the patents. I think the patent situation can be well understood by bringing out first of all that the Associated Companies do not have to worry or think about patents at all, and they have no people in their employ who devote any time to patent matters. The reason for that is due to the work that is done on patents by the central organization. The patent department of the general staff is prepared at all times to advise the associated companies in regard to patent matters and in that way the associated companies avoid costly patent litiga-

506 tion. The patent department of the General Staff sees that the necessary steps are taken so that adequate patent protection is secured on all new developments, so that the Associated

Companies may enjoy their free and unobstructed use.

Q. Is the American Telegraph and Telephone Company striving to secure a monopoly on all patents of the telephone busines-,—is

that their object in getting these patents?

A. No. What we are trying to do is not to acquire patents with the idea of preventing other people from conducting the telephone business, but what we want is this: We want the Associated Companies protected in what they are now using; we do not want infringement suits brought against them. The most important thing of all is that the ground we wish to travel in our future development shall be protected—we do not want to be restricted from recommending to the Associated Companies in the future, what we consider the best type of apparatus because somebody else holds a patent that would prevent our use.

alike.

Q. Right there, Mr. Rhodes,—Mr. Kelsey in his testimony in this case, mentioned instances where they had some independent companies who had to remove switchboards on account of its infringing some patent. The Associated Companies are relieved of this problem by an arrangement of this kind?

A. I think so.

Q. And it is under this arrangement that the American Telegraph & Telephone Company takes care of those matters for the companies?

A. Yes; and in regard to the protection of the equipment, the companies are using numerous out of the large number of patents which in hostile hands might be the basis of successful suits

against the Southwestern Telephone Company. Now, is all of these patents were the exclusive property of one of the Associated Companies, they would not be available for the other; if one part were owned by one company, and another part by some other—uo one could have the best system. We believe it is necessary and desirable that they should be held for the benefit of all

I mentioned yesterday that out staff was on the look out for worthy ideas. One thing we do is to examine all telephone patents that are issued, and examine all devices that are submitted to us by engineers. It is the idea we look into, and not the source always, and we receive all imaginable kinds of suggestions, and all are examined sympathetically to see if they contain the germ of anything which could be made useful in the service. In the past 10 years we have examined over 5,000 patents including everything bearing on the telephone system, and we simply require the necessary rights under these patents wherever we find one we think will be useful. I have a list of the live patents that are either owned by the American Telegraph and Telephone Company, or under which it has a license, or which it controls through our ownership by the Western Electric Company. This list includes the number, the date and the name of each of the patents.

Q. You say those are live patents?

A. Yes. This is a list as of October 1, 1919, and it contains about 3,500 patents. I would like to say, however, that in this list of 3,500, there are about 20 that apply to other than the telephone business—a very small number.

508 Mr. J. D. Frank: We offer that list in evidence as Plaintiff's Exhibit No. 105.

' (Thereupon the exhibit was received in evidence, and is marked Plaintiff's Exhibit No. 105, as requested.)

Q. Mr. Rhodes, you have glanced at the boards and equipment we have in Houston plant, have you?

A. Yes; I have made a rather rapid examination of them.

Q. I wish you would mention five or six typical patents which are being used here in connection with the operation of the Houston

exchange, owned and controlled by the American Telegraph and

Telephone Company?

A. There is patent No. 856,955, which deals with the spring jack mounting plate, employed in connection with the multiple jack in the switchboard; there is patent No. 1,057,126 which covers the protector mounting used in the main distributing frame; there is patent No. 1,156,671 and 1,121,897 which covers the improved form of line and supervisory relays, and patents Nos. 1,012,125 1,109,919 and 1,109,947 which cover the combined ringing and listening key used by the operators.

Q. I think that is sufficient. The Southwestern Telephone Company gets the use of these patents under this license contract with the

American Telegraph and Telephone Company?

A. It does.

Q. Dealing upon the subject of patents, please describe generally the instrument service performed by the American Telegraph and Telephone Company for the Southwestern Telephone Company, and tell us something about the work of the General Staff which has been

done in developing these instruments?

A. This service consists in furnishing the Southwestern Telephone Company with all of the Receivers, Transmitters and associated induction coils; that is, the coil associated with the transmitter required by the Southwestern Telephone Company for giving telephone service, and also the service of repairing and maintaining these instruments, and further, whenever, a general instrument is need and a new type is brought out the Southwestern Telephone Company is under the present arrangement free to return the instruments and order the new type without additional charge to obtain new instruments of the latest type. In order to picture what this instrument developing results in, in replacing old type by new, and what it has meant, I will briefly describe a few points connected with the instrument development, and rapidly review some of the more important changes and improvements that have taken place.

The first transmitter that came from Professor Bell would be considered an exceedingly crude instrument now. Its chief feature was a membrane which operates a moving reed in front of a coil of wire, and with it it was possible to talk a few hundred feet. That was followed by various types. The first instrument which was used quite widely in commercial service was known as the Blake transmitter; it was invented by a Doctor Blake, who was an ear specialist. The American Telegraph and Telephone Company at that time secured his patent; that instrument was brought out about 1878 and it was very much more effective than any type of instrument that had been used before its time, and it was the type of instrument generally

used up until about 1891.

Q. This is what you talked into? "Examining instrument.")

A. Yes, sir.

Q. And you have a photograph of that?

A. Yes.

Mr. J. D. Frank: We offer the photograph in evidence as Plaintiff's Exhibit No. 106.

(Thereupon the exhibit was received in evidence, and marked Plaintiff's Exhibit No. 106, as requested.)

Mr. Rhodes (continuing): This Blake transmitter gave a clear transmission over short ranges, but it was difficult to keep it in adjustment. A great deal of work was done on transmitters, employing granular carbon as the active medium. The American Telegraph and Telephone Company secured patent rights to a form of granular carbon transmitter, invented by an English clergyman, Henry Hunnings. That instrument was a very imperfect one in operation; its efficiency fell off rapidly as used, and our General Staff Engineers carried out a very long and patient investigation in improving it, and finally developed it into what was known as the solid back type of transmitter, which became of use to the Associated Companies in 1891. This was known as No. 239 Type of Trans-It was used in connection with batteries and subscriber stations, and it contained an induction mounted in the swelling in the base. These instruments at the time I came into the business were rapidly sweeping out of existence the Blake type of transmitter.

Q. You have a photograph of that?

511 A. Yes.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 107.

(Thereupon the said exhibit was received in evidence, and was marked Plaintiff's Exhibit No. 107, as requested.)

Mr. Rhodes (continuing): Now this type of instrument was followed by the—what we call the No. 242 type, about the year 1900, and this was an instrument which was used with the common battery system, a bracket type of instrument with the cord outside of the bracket. These common battery instruments swept out of existence fairly rapidly the preceeding type.

Q. You have a photograph of that?

A. Yes.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 108.

(Thereupon the said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 108, as requested.)

Mr. Rhodes (continuing): This was followed about four years later by a generally similar form, but one in which the cord was concealed within the bracket arm.

Q. You have a photograph of that?

A. I have.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 109.

(Thereupon the said exhibit was received in evidence, and 512 was marked Plaintiff's Exhibit No. 109, as requested.)

Mr. Rhodes (continuing): Not about the year 1902 the form of instrument which was used in connection with the desk stand, with which we are all familiar now, began to be fashionable with telephone subscribers. The previous type of instrument had been mounted on sets attached to the wall. This desk stand required the use of a transmitter head, and this instrument No. 229 was brought out about 1902, and immediately began to displace the instruments which had preceded it.

Q. Have you a photograph of that?

A. Yes.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 110.

(Thereupon the said exhibit was received in evidence, and was marked Plaintiff's Exhibit No. 110, as requested.)

Mr. Rhodes (continuing): This type of instrument was followed by No. 329 type which began to go out in large quantities about the year 1913, and was a more efficient and effective instrument than the No. 229, which preceded it.

Q. You have a photograph of this No. 329? A. I have.

Mr. J. D. Frank: We offer this photograph in evidence as Plaintiff's Exhibit No. 111.

(Thereupon the said exhibit was received in evidence, and was marked Plaintiff's Exhibit No. 111, as requested.)

Q. Now about two or three years ago, a still further im-513 proved form known as No. 323 instrument was brought out. and that is beginning to displace the instruments of the preceding type. I have a photograph of that. A. Yes.

Mr. J. D. Frank: We offer this photograph in evidence as Plaintiff's Exhibit No. 112.

(Thereupon the said exhibit was received in evidence, and was marked Plaintiff's Exhibit No. 112, as requested.)

Mr. Rhodes (continuing): And at the same time it might be a matter of interest to note the type of induction coil that goes with everyone of these transmitters. These are known as the No. 20 induction coil.

Q. Have you a photograph of that?

A. I have.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 113,

(Thereupon the said exhibit was received in evidence and was marked Plaintiff's Exhibit No. 113, as requested.)

Mr. Rhodes (continuing): In order that I might, if anyone was interested, explain a little bit about the operation of the transmitter, I brought down a cross section of the No. 229 transmitter, which shows the working parts of the instrument.

Q. Before you take up the description of that, have you a photograph of that?

A. Yes, sir.

Mr. J. D. Frank: We offer that photograph in evidence as Plaintiff's Exhibit No. 114.

(Thereupon the said exhibit was received in evidence, and was marked Plaintiff's Exhibit No. 114, as requested.)

Mr. Rhodes (continuing): Some of the details of the operation of this instrument may be of interest. Take the mouthpiece alone,—the mouthpiece contains a rubber diaphragm which is perforated like the top of a salt cellar. The reason why that is done is this: The operative part of the instrument consists of what is termed a granular button. There is a heavy metallic bridge which extends across the interior of the instrument, and attached to that is a metallic button, containing two plates of hard carbon. One of those is rigidly attached to the rear of the button; the other is connected to the button by a little ring of mica; that mica has to be a special grade of mica that is found in India, and the thickness in order to get the best results has to be accurately between 15/10,000 and 17/10,000 of an inch. Various other materials such as paper and silk have been tried, but nothing else will serve the purpose.

Now that front electrode borne by this little mica ring is attached to the aluminum diaphragm of the instrument, against which the voice operates, so that as one speaks into the instrument, the aluminum diaphragm vibrate-, and that causes the front electrode of this button to move back and forth; this little place right in here is filled with the granular carbon,—and by this working the electric waves are produced just the same as the voice waves in the air. Now reverting to the perforations in the mouthpiece, before they were in-

troduced it was found that a telephone subscriber might
515 nervously punch a pencil into it and strike the little knot
which secures the front electrode of the button to the
disphragm; the slightest pressure against that was sufficient to injure this little mica ring carrying the front electrode, and to prevent
that this diaphragm with the holes was presented us, but it was
necessary to do considerable experimental work so as not to inter-

fere with transmission.

You will also notice on one of the mouthpieces that there are three little slots around the edge—the way that came about was this: It sometime- happened that a subscriber would be using the telephone,

and sished to speak to someone sitting beside him, without the person at the other end of the line overhearing what was said. case he would put the palm of his hand against the mouthpiece. Before these slots were cut that compressed the little mica ring by putting pressure on the diaphragm, and when this was done the suction caused it to move back, and that was enough to injure that apparatus. The perforation of the slots allowed the air to pass out without causing the pressure when he put his hand against the The granular carbon used in what is termed the butmouthpiece. ton of this instrument has been the subject of a great deal of devel-The raw material is a high grade anthracite coal opment work. coming from a special vein in a Pennsylvania mine, selected by inspectors on the ground, and however carefully they select it about 90 per cent is rejected by a secondary inspection at the factory before manufacture begins. Then it is crushed and sifted and roasted at a definite temperature so that the little grains are hard and glassy

and will make no mark on a piece of paper. There are continually in progress tests on the current output of these trans-516 mitters. Hundreds of them taken from the stock produced are mounted in racks with a receiver opposite the mouthpiece of the transmitter—the receiver is operated by a source of current from a phonograph, so that a very loud noise is inflicted on the transmitter very much in excess of anything that is commercially suggested, with the idea that in a few weeks we will get out an instrument that There are numerous is comparable to many years' actual service. other details in connection with that test. There is a heavy weight controlled by a magnet, which when replaced causes the instrument to be jarred by falling on the rack containing it. give the same effect on the instrument that would happen when a subscriber violently puts the receiver on the hook in this way. (Demonstrating.)

I think that is about all I need to say on the development of the transmitter, except t-at there have been in all about 66 different types of transmitters which have been standard at one time or another, some of them were for special uses, and not in very general use, but have been standard and furnished to the Associated Companies, and are now obsolete, and we have had pictures made show-

ing these 66 types which have passed out of existence.

Mr. J. D. Frank: We offer this photograph in evidence as Plaintiff's Exhibit No. 115.

(Thereupon the exhibit was received in evidence, and was marked Plaintiff's Exhibit No. 115, as requested.)

Mr. Rhodes: I have only mentioned the type of instrument used at subscriber stations. There are special types used by operators, and a kind of instrument mounted on a breastplate, and there are sets for outdoor use by linemen. These special sets are furnished to the Associated Companies on request in the same way the regular subscriber instruments are furnished. Q. Mr. Rhodes, I wish you would tell us something about the de-

velopment of receivers?

A. The development of the Receiver has proceeded along generally similar lines to that of the transmitter. The original form of receiver that was in general commercial use along at the time of the Blake transmitter and solid transmitter was known as the 101 type of receiver or hand telephone. It consisted of a magnet with a single pole piece and coil, with the diaphragm and cap.

Q. Have you a photograph of that Receiver? A. I have a photograph of that Receiver.

Mr. J. D. Frank: We offer that as Plaintiff's Exhibit No. 116.

A. (Continuing:) That was followed about between 1900 and 1902 by what is known as the 122 receiver, the early form, the case consisting of one piece and this was a bipolar type of receiver having two poles and two coils. It was a more efficient type of receiver than the one that preceded it.

Q. You have a photograph of that one, have you?

A. Yes, and I have on the same sheet the later form of 122 receiver which came in about 1904, the modification being that the shell consisted of two pieces which decreased to a consid-518 erable extent the breakage of the shells by introducing a semiflexible joint at this point. These two types of receivers swept out of existence the 101 form which preceded them.

Mr. J. D. Frank: We offer the exhibit as Plaintiff Exhibit No. 117.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 117, Witness Rhodes," and is filed here-

with.)

A. (Continuing:) I have also a cross-section of this No. 122 receiver which shows the method of operation. In the center is a steel magnet; attached to this steel magnet are two pole pieces; these are surrounded by two coils of very fine copper wire, insulated wire, which enter into the telephone circuit. Opposite these pole pieces is a diaphragm of soft iron which must not rest upon the pole pieces but be kept at a very small distance away. The variations in strength of the telephone current pull with greater or less degrees of intensity upon this magnet causing it to fluctuate and that agitates the air and causes the sound to reach the ear. There are three dif-ferent kinds of iron employed in that receiver, one for the magnet, another kind for the pole pieces and another kind for the diaphragm. The choice of those is not for motives of economy but for motives of efficiency and in the development of these instruments, every detail has to be worked out with great care. The dimensions of the air chamber between the cap of the receiver and the diaphragm have to be very accurately adjusted as well as the dimensions of

the diaphragm itself and the separation from the pole pieces. 519 Q. Do you have a photograph of that?

A. Yes.

(Mr. J. D. Frank: We offer the photograph in evidence as "Plaintiff's Exhibit No. 118, Witness Rhodes," and is filed herewith.)

A. (Continuing:) Now, the instruments of that type have within recent years been being swept out of existence by a type which was developed about 1912 and is known as the unit type of receiver because the magnet system and the pole pieces and the coils are made in one mechanical unit, which has the advantage of being dust-proof. fits very closely over the cap and the diaphragm bears against a brass ring and excludes dust and decreases the maintenance trouble That is know- as No. 144 receiver. with that type of instrument.

Mr. J. D. Frank: We offer the photograph of that as Plaintiff's Exhibit No. 119.

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 119, Witness Rhodes," and is filed herewith.)

A. (Continuing:) All in all, there have been since the early days of the business 28 different types of receivers which have at one time or another been standard for certain purposes.

Q. You have photographs of those? A. And I have photographs of those.

520 Mr. J. D. Frank: We offer the photograph in evidence as Plaintiff's Exhibit No. 120.

(The Photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 120, Witness Rhodes," and is filed herewith.)

Q. Now, what is done in the way of subjecting these instruments

to live tests, Mr. Rhodes?

A. I described that this morning, in the way of those transmitters, hundred- of them, at a time, are tested from every lot that comes along in order to maintain the standard.

Q. Where you have them ranged on a board and give that board

a jar?

A. Yes, and they are continuously talked into by means of a

phonograph.

Q. Have you investigated the subject and have you an opinion as to what it would cost the Southwestern Telegraph & Telephone Company to provide its own telephone instruments if it did not obtain them under the present arrangement with the American Telephone & Telegraph Company?

A. I have.

Q. What are your conclusions with reference to that subject?

A. I have prepared an exhibit showing what in my opinion it would cost the Southwestern Company to provide its own arrangements if it didn't obtain them under the present arrangement and I I would like with your permission to explain that in detail.

Q. You have an exhibit on that?

A. I have.

521 Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 121.

(The statement was thereupon received in evidence, marked "Plaintiff's Exhibit No. 121, Witness Rhodes," and is filed herewith.)

Q. Now take up that exhibit and explain it to us, Mr. Rhodes, in detail.

A. In preparing these photographs, the physical unit which I have covered is a "set of instruments." In the term "set of instruments" we include the transmitter with the induction coil that is associated with it and the receiver. Those three parts constituting a set, are furnished to the associated company by the American Company for every subscriber's station. Instruments similar to these are sold by the manufacturing company on the open market in competition with instruments made by other manufacturers. The market price today for a set of these instruments is \$5.30.

Q. Why have you used the figure of \$4.50?

A. I have used a figure of \$4.50 because I believe that if the Southwestern Company, instead of obtaining the instruments under the present arrangement were to equip itself throughout the State of Texas, I believe that if the Southwestern Company in the State of Texas were to provide for itself its own instruments in the large quantities in which they would have to buy them to re-equip themselves, that they would be able to obtain them at a lower price than the present market price of \$5.30, and in order to not over-estimate the value of those instruments, I have taken the figure of

\$4.50, which I think is conservatively low, for that purpose. Now, I have undertaken to compute, as best I could, in my judgment, on these instruments. In Item 3, I have taken an eight per cent return on the investment of this \$4.50 which gives an item of 36 cents. I have taken an eight per cent return because I believe that for a public utility business, with the risks involved in connection with that kind of business, that a return of eight per cent was the lowest reasonable rate of return. Moreover it has often been allowed by commissions for that purpose and it seems to be about the minimum rate of return at which money can be attracted into a public utility enterprise, such as the telephone business. The telephone Company must obtain their capital in competition with others. They have not got the money and they must go out and hire it in competition with other people and I think that the rate compares favorably with the rate of return on mortgages and other invest-In Item 4, I have taken an eight per cent reserve for replacement and I base that on my general information and experience in connection with telephone instruments. The proper rate of reserve for replacement cannot be computed by a formula. The best thing that we can do in the way of a determination of what the reserve should be is to take what our experience of 30 years has shown, and look over the whole situation, and apply our judgment to it, and the value of that judgment depends on the knowledge, experience, ability and integrity of the people who exercise it. does not take account of any of the instruments which are repaired and reconstructed, but it only takes care of the instruments which

are junked when they are returned. It covers not only the wear on the instruments but it covers the replacements due to obsolescence, inadequacy and the progress in the art. reserve must be sufficient to permit us to keep pace with the art as it advances or as the results of developments that we are making. and from that point of view, the reserve is the price of grogress in In the item of repair, shown on line 5, I have based that on what it costs the American Company today to repair instruments on the basis of the repairs that are made all over the country and I don't believe that the Southwestern Company, if it undertook to repair its own instruments, could do it any cheaper than that. line 6. I have allowed one per cent for cost of administration because I believe that the Southwestern Company could not undertake the work of purchasing its own instruments, of inspecting them as they are received, of keeping track of their requirements, and warehousing and handkling the instruments without incurring an administrative expense, and I think that one per cent is a conservatively low figure for that purpose. In the 7th item, I have allowed a two per cent reserve for contingencies and I have done that because it has been my experience that engineers' estimates including my own are more part to be over-run by the fact than to be under-run. the same experience that one meets if he builds a house and makes a preliminary estimate of what that house is going to cost him, and more often when he is through it costs him more than he has estimated, then less. If I knew that the nature of these contingencies were, I would have attempted to valuate them, but I have merely put them in as a factor of safety on the estimate as a whole. Now Now in these figures I have taken no account of the

expense of developing the instruments or the expense of These five Items add up to a sub-total of 90½ cents. it is a fact that a telephone Company has to have more sets of instruments than it has subscribers' stations. It has to have a few instruments to come and go on. Some instruments that are in process of being returned to the warehouse and a few that are on the way out, but more particularly it has to have instruments for the operators at the switch-boards. And it has to have instruments for the use of its employees for testing purposes and it usually runs from five per cent up as an excess over the number of stations. I have therefore increased this sub-total of 901/2 cents by five per cent, giving me a figure of 95 cents. Now the American Company carries a reserve stock of instruments which, over a period of 10 years, has averaged over 71/2 per cent of the number of instruments in service. purpose of carrying this reserve stock is, so that the associated companies will never ask for instruments and be denied them because there is no adequate supply. The reserve stock guards against a depletion due to a sudden increase or growth among the associated companies which might call for instruments faster than they could be manufactured for a time. It guards against interferences with the supply of materials that enter into the instrument, so that in case of a fire in some factory manufacturing some parts of material, or if there was a delay due to strikes or due to delays in transportation that the furnishing of these instruments to the associated companies would not be interfered with. I have assumed in

525 these figures that the Southwestern Company, if it provided its own instruments, would desire this same precaution against interruption, and to be on the safe side I figure on a six per cent stock. In line 13, taking six per cent of the value of the first cost of the instruments, \$4.50 I arrive at 27 cents, and in figuring the handling charge on that reserve stock I have only figured a return and cost of administration and an item for insurance and contingencies. I figured no reserve for replacement and no repairs for the reserve stock. That item adds 3 cents to my figure of 95 cents, or a total actual cost per station of 98 cents. Now I might mention that if I had taken instead of \$4.50, the present market price of \$5,30, this figure would have come out instead of 98 cents per station per year, would have come out \$1.15 per station per year and I think that somewhere between those figures and not lower than about 98 cents is what the Southwestern Company could provide those instruments for if it did not obtain them under its present arrangement.

Q. Mr. Rhodes, do you know how much this payment to the city

of Houston amounted to last year?

A. Why, I have been told it amounted to about \$1.70 per station, \$43,528.00.

Q. Yes?

A. And approximately twenty-seven thousand stations. How much is the amount?

Q. \$43,528.00.

A. Well, that is, almost \$1.61.

Q. How do you think that this estimate that you have made here, what it would cost the Southwestern Company to provide its 526 own instruments, is a conservative estimate, do you?

A. I do, ves.

Q. That amounts to a total annual cost per station per year of 98 cents?

A. Yes.
Q. Then how much would that leave Mr. Rhodes out of that \$1.61 for those other services that you have described?

A. 63 cents. That is a little over 5 cents per station per month. Q. For all of the other services legal, accounting, financing-

A. (Interrupting.) And engineering.

Q. And engineering. Yes, pardon me for overlooking the most important part. It amounts to approximately 5 cents per station per year-per month?

A. A little over that, yes.

Q. Mr. Rhodes do you know of any place where the Southwestern Telegraph and Telephone Company could get the services similar to those it received from the American Telephone and Telephone Company at a cheaper rate?

A. No, I don't.

Q. Do you know where they could get similar services at all if they didn't get them from the American Company?

A. No, I don't.

Q. Is there any concern in the United States or anywhere, that renders the services which you have described here on the basis that this company renders them?

A. No. I don't know of any.

Q. So far is there any other organization which compares with that? 527

A. No.

Q. I believe that is all. One other question, Mr. Rhodes I will ask you to state whether or not in your opinion the value of those services is as great as what is paid for by the Southwestern Tele-

graph & Telephone Company?

A. Why I think that comparatively few savings have been accomplished. The fine wire cable saving, and the saving in ducts due to that, and the saving due to antimony sheet, and a few of the other items, if valued, would show a saving to the Southwestern Company many times what the payment amounts to.

Mr. J. D. Frank: That is all.

Cross-examination.

Questions by Judge Powell:

Q. I believe you said yesterday that all of the associated companies were paying you this 41/2 per cent?

A. Yes, sir.

Q. Have you any idea what the total amount per annum of that last contract is to the American Telephone & Telegraph Company?

A. No sir, I don't keep tract of that.

Q. You said that the American Telephone & Telegraph Company own some long distance lines itself, I believe? A. Yes it owns long distance lines connecting the associated com-

panies, yes sir.

528

Q. And some work of the general staff is for the benefit of the long distance lines?

A. Yes, some of it is. Q. Now does the American Telephone & Telegraph Company set aside to itself any 41/2 per cent?

A. I understand it does, yes.

Q. Do you know what the total expenses of maintaining this general staff is? A. No sir, I am sorry, but I don't have to do with the account.

Q. I was just trying to really see what profit there was in the maintaining of the general staff.

A. Well I am sorry I can't tell you.

- Q. What the total income is, and what the expense of conducting it was.
- A. I know that the expense of conducting it is very much greater than it was a few years ago.
 - Q. But the income is also greater, isn't it, Mr. Rhodes?

A, I presume so.

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Q. As the companies enlarge and their receipts necessarily grow?

A. I presume that is so but I don't keep tract of it.

Q. Do you know what proportion of the capital stock of the Southwestern Telegraph & Telephone Company is owned by the American Telephone & Telegraph Company?

A. No, I don't but I understand that the American Company

majority stockholder.

Q. Now you said yesterday that the benefit of the work of the general staff for which the 4½ per cent is charged, might be classed as two-fold, first, benefit which was general to all the associated companies and second, specific benefit to such of the associated companies?

A. Yes sir, I made that statement.

Q. Now assuming that the American Telephone & Telegraph Company owns 99 and 99/100 per cent of the capital stock of the Southwestern Telegraph & Telephone Company, don't you think that it owes to the Southwestern Company these general benefits?

A. Why I would not regard that it was doing it for itself. It seems to me that it is a separate organization. If the American Company should loan money to the Southwestern Company, I should expect it to take the Southwestern Company's note for it, and I should imagine that the American Company might at any time sell its stock in the Southwestern Company and this relation would continue. I would look at it comething like this: If I were president of the Southwestern Telephone Company and were paid a just salary for my services and I became a stockholder in the company, I would not expect to have my salary reduced on that account.

Q. Well no, but you were speaking about the development of the art and the general benefits now which goes to all the associated companies. If it owns practically the entire stock of this concern here, don't you think it is really benefiting itself and not benefiting

the Southwestern Company?

A. Why I should say that the benefits go largely to the public, because it means that by these benefits the telephone service is given at a less cost to the public than would otherwise be the case. I might point out in that connection that there was two of the associated companies, the company operating in the State of Connecticut, known as the Southern New England Company, and the Cincinnati Company, which operates the territory around and including

530 the city of Cincinnati, in which the American Company does not own a majority interest and they have this same 4½ per cent arrangement and I understand are glad that they have it. Now a number of years ago, the Michigan Company was taken over by the bond holders under conditions which I understand enabled them, if they wished, to cancel all existing contracts and they made an independent investigation of this license contract and decided that it was to the benefit of the Michigan Company to continue it.

Q. I was just trying to really get at the point, from what little investigation I have been able to make that it is after all but another way of getting that much dividends. If I own a concern so absolutely that I control practically all of its stock and then furnish it cer-

tain services and get money back. I am getting that much dividend on my services.

A. Well it seems to me that that is getting into a point that is more of a legal point than an engineering point. What my knowledge is confined to since I have been connected with the Company, I have

been part of the machinery for furnishing these services.

Q. I don't dispute that really you do perform services. I am not taking any issue with you on that. I am sure you do, and the art has developed wonderfully, but after all I think in case of specific services, especially furnishing these instruments, you would certainly be entitled to a return on their value in a rate bearing, but I can't help but feel like the 4½ per cent contract as a whole is simply a way of getting another dividend. It would not mean 41/2 per cent on your value year at all. I conceive it would be considerably less

than that. I believe you said vesterday, Mr. Rhodes, that the Western Electric Company is a manufacturing branch of the

Bell System.

A. Yes sir.

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Q. Do you know what proportion of the stock of the Western Electric Company is owned by the American Telephone & Telegraph Company?

A. I don't know the proportion, but I understand that the Ameri-

can Company is the majority stockholder.

Q. Do you know what dividend the Western Electric Company paid last year?

A. No sir.

Q. You don't know what amount of profit it has made in the last few years on the equipment sold to the Houston exchange here?

A. No sir, I do know this that the Western Electric Company sells a very considerable amount of telephone apparatus in competition with other manufacturers in the open market, and I understand that the associated companies never pay more than that market price and generally pay less, for the same apparatus,

Q. In that same connection, it has been intimated here that the American Telephone & Telegraph Company had an interest in the Estanaba, Michigan pole interest. Do you know whether that is

true or not? Do you know anything about that?

A. I have been told,-this is only hearsay,-but I have been told that the Western Electric Company has no interest in any pole company.

Q. Well has the American Telephone & Telegraph Company any

interest in it?

A. Not so far as I know.

532 Q. Not so far as you know. I had heard that intimated here in the hearing, and then I heard it from others on the outside who suspected it. I didn't know anything about it. I believe you said yesterday that the recommendation of your general staff with reference to engineering matters and other matters is not binding upon the associated companies. Now dealing in the matter of substance and not form, Mr. Rhodes, how long do you think an

official of the Southwestern Company would last if he took issue with you and your staff finally upon telephone instruments and tele-phone policy generally?

A. Well I can say on that that we have a good deal of debate in the family between our general staff engineer and the engineers in the field about a great many points, and we listen to everything that they have to say and if they convince us, we change our recommendations, and there are a good many instances where they willin some matters we recommend a standard. They can't change that right away because they don't think that is the right thing to That is all within their judgment. do right away.

Q. It might be of course a temporary delay in the matter, but I mean you said now thay don't have to take up your recommendations Suppose that after all the debate has been had now-

A. (Interrupting.) Yes.

Q. And all has been said between you and them, they persist in refusing to carry out your recommendations, which of course are in line with your standardizing plan everywhere, don't you think it likely that they would find a position somewhere else shortly?

A. Why I think that if they persisted in disregarding the best advice as to what they were going to do, that the executive officers of their own company would be worried about it and 533 they might take action, and if you will permit me, I think

they follow our advice just the same way that you follow the advice of of a physician in whom you have great confidence because he had

helped you before.

Q. I think myself that they would follow it, and I couldn't help but be somewhat amused by the apparent statement that it wasn't a matter with them. A concern ow-ing a stock in its entirety or practically so, I take it that they would manage it anyway, naturally, and if their policy is not adopted that the other officials will go.

A. What I had in mind is we don't issue instructions, we don't say, put in this relay, or this type of circuit, but we tell them that we have developed the things that accomplishes better results and we think it is better than what existed before for the following

reasons, and we give them the reasons for it.

Q. Yes, you are polite about it, but ninety-nine times out of one

hundred, your instructions are obeyed, aren't they?

A. Why we don't have any follow-up system to see whether they Our engineers will go out into the country and they will go around the local plants with the local engineer and if they find he is doing something that they don't consider the best practice, they will call his attention to it and tell him they think there is something better. We have never had that side of it come up.

Q. No, that is what I was thinking. And likely it will not come up I am thinking. Now you said yesterday you believe it is better as a financial policy for the Southwestern Company to pay this

41/2 per cent on a gross receipt as a license fee rather than to pay for each specific piece of work done for this particular company?

A. Yes, sir.

Q. Is that just a general estimate, Mr. Rhodes, or did you ever try to figure on what it would cost them to have gotten the advice in each case for instance did you ever go through your books and see how many times they wrote you for certain advice, and how many times you sent men here, and how many times they sent men there,

and see what that would run each year?

A. No, I have never done that and I don't think it would be possible to do that, because we don't keep our records of work that way. We don't keep any record of dealing with the company separately, but our men on this development work will charge up their time and expense to general work, just as work on the preservative treatment of poles or work on the supplies of a grial cable and whatever is done is charged to those general subject headings. I don't know how that could be done although I don't have anything to do myself with the keeping of the books.

Q. It is then your stat-ment that it was better to pay it this way. it was just a general idea that you have because of your knowledge

of the work that is done for the associated companies?

A. Yes, sir, I believe it is so.
Q. You have never applied it to any specific company?
A. Not to any specific Company but I believe it is better for the reason that if some question is raised that applies particularly to all of the companies we are now able to take that up and work it wout exhaustively for the benefit of them all.

535 Q. Now you said yesterday that the engineering staff of the associated companies—I believe you said that each of the

associated companies had an engineering staff?

A. Yes.
Q. They are not trained to that high degree of efficiency that the

general staff was?

A. I don't think you quite got my point there. I didn't mean they were men of inferior ability in any way, but merely that they are specialists along different lines. The engineers of the general staff have become specialized, each man in the work that he is doing, and that is different work from what the engineer in the field is doing. Now I don't mean to say but what if Mr. Pennell, who is the engineer of the Southwestern Company, and I were to exchange jobs, but what after getting into the atmosphere of the engineering and research work that he could conduct my job just as well as I It is a matter of envior-ment and association and organiza-I meant t- bring that out rather than it was a matter of any difference in the person-el. Of course there if a further point, that for certain lines of research work we pick out men who are trained along those lines. If we want a man who is going to take up some of the higher mathematical work, we go to the colleges and take a young man who has got a degree of doctor of philosophy in mathematical phisics and we pick him for the job. Now I never picked a man that had a degree of doctor of philosophy in mathematical physics to be an engineer for an associated company. He is not the type of man for that character of work.

Q. No, I see. At the same time the Southwestern Telegraph & Telephone Company itself has a corps of engineers.

536 A. It has.

Q. Now if it were not for the fact that they are relying on the American Telephone & Telegraph Company's general staff, would they or not develop themselves to a very much greater efficiency and could they become really as expert as was necessary?

A. Why if they built up a sufficiently large department and added hundreds of men to their staff, the same type of men that we have got, and undertook to build up a similar organization, why they could get quite a direction along that that line and so would each of the associated companies.

Q. Not taking hundreds of men, but I mean taking their own forces, if they realized they couldn't go to you for advice, wouldn't they go to work themselves and run these things to a certain extent.

to a large extent?

A. I presume they would go to work and undertake to do the best they could, but I don't think they would accomplish anything like the result with the forces that they have got now. They would have to have a vastly increased force to do the same thing.

Q. I believe you said that the hard drawn copper wire, the invention with reference to hard drawn copper wire, was beneficial mainly

to long distance, did you not?

A. I don't know whether I said that or not, but it is principally applicable to the long distance lines of the various companies. It is used in the long toll lines of the Southwestern Company in the State of Texas very largely.

(By Mr. D. A. Frank:)

Q. You use hard drawn copper wire in aerial cable, don'

you?

A. No, the wire in the cable is soft drawn, but we do use a hard wire in the twisted pair that is used for the drop wire from the cable terminals to the subscriber's premises and there is, too, as I remember it, two million feet or so of that kind of wire in Houston.

Q. The open wire in the city that is copper would be hard drawn,

wouldn't it?

A. Yes, but I believe there are only comparatively a few miles of tjat within the city.

(By Judge Powell:)

Q. You named quite a number of benefits that had been derived from certain inventions, but in many of those instances they are ben-

eficial largely to long distance matters, you said?

A. Why, some of them are. Now take the matter of loading. Loading throughout the country is used more by the associated companies in their local plants than it is in the long distance lines, but the use is beneficial in the large cities where the trunking distances between offices are very great. There is a little loading in Houston, I

understand, today. The trunks that were placed out to Camp Logan were loaded, but generally the Texas cities are not of sufficient extent as a rule to require very much loading. Loading is used on the toll lines in the State of Texas. The application of the phantom circuit in Texas is largely a matter of the toll lines and the use of repeaters is, but the other matters that I mention, the whole engineering of the exchange, the development of the underground conduit, the development of the cables that are used, the sub-station apparatus, and the central office apparatus, all those are matters that affect the local ex-

change plant in Houston. We cover the whole field of tele-

phone engineering for these associated companies. 538

Q. Now I believe you said that you had made, that there had been several fundamental plans made for Houston.

A. Yes, sir.

Q. One back in 1904.

A. 1904.

Q. Another one 1906 and 1912.

Q. Now you haven't made any fundamental plans yourself since that time, have you?

A. No, sir, there was one made in 1915 but that was made by the Southwestern Engineers following the method outlines by our staff.

Q. And was sent to you for final approval, I believe you said, to look it over?

A. For review to see if we had anything to suggest about it. Q. Now getting down to specific work for the Houston Exchange; how many men did you send here in 1919?

A. To Houston?

Q. On any kind of work, yes, sir?

A. To Houston? I don't suppose that we sent any engineer to Houston in 1919.

Q. How many in 1918?

A. I have no record of that but I shouldn't be surprised if anyone came here, because the questions that we take up with the engineers of the Southwestern Company are taken up generally either by our men going to St. Louis or by the Engineers from St. Louis coming to New York.

539 Q. Well then you don't know of any in 1918. Were there any trips made to Houston in 1917 that you know of?

A. Not that I know of, no, sir.

Q. All right, 1916? A. Not so far as I know.

Q. 1915?

A. Not as far as I know.

Q. Well can you tell me how many times you sent men to St. Louis during any of those years to meet men from Texas?

A. Oh I can tell some of those cases, yes, sir.

Q. With reference to the Southwestern property to the city of Houston.

A. Mr. Barnett, our commercial engineer, was in St. Louis in 1917 for several days, and he was in Dallas for a couple of days. Mr.

Mandel was in St. Louis for three days in 1919. Two other men from the commercial department were in St. Louis, one from March 11, to June 9, in 1919—to June 7, 1919. Another one for a period of six days in April, and another one for seventeen days in 1919, and another man in 1918 two days. They were assisting the Southwestern Company in studying directory problems and approving directory practices applicable to the whole Southwestern group of companies.

Q. Were any of those trips taken for the exclusive benefit of the

Houston Exchange?

A. Not for the exclusive benefit so far as I know, no sir.

Q. Now how many times during those years did engineers of this company visit New York with reference to problems peculiarly applicable to this Houston Exchange?

A. You mean, problems to the exclusion of any other prob-

lems in the-

Q. Yes sir, that just came there to get benefit for this particular

exchange?

540

A. I don't believe that they came for that purpose. You see that the problems of telephone engineering are of a general nature, so that the problems that apply in one place apply to other places. It would be very unusual for some very special condition to arise in Houston that would not arise anywhere else, but they are problems of general developments which apply to stations of similar character throughout the whole territory.

Q. Do you know how many letters you have written to the Southwestern Company about this Houston Exchange during the last four

or five years?

A. No I haven't kept any record of that,

Q. Then as a matter of fact, except for the rental on these instruments, whatever that might be worth, that you furnished the Houston Exchange, you have not very much definite date about what

peculiar benefits Houston gets, have you?

A. Why, I know that we have furnished all this information about the standard practices and we developed the materials that are used throughout the Houston Exchange. I can give you examples of forty or fifty different kinds of standard materials that are used in the Houston Exchange that were developed by our general engineering staff, and the consumption methods as I have seen them in going about the city are those that have been developed by our general staff. Now that does not mean that those methods are peculiar to Houston and not used anywhere else.

Q. You don't know whether the engineers here would have developed those same ideas of their own accord or not?

A. I don't believe that they would have developed these ideas extensive as when each one of them was developed in extensive details by a specialist.

Q. Now in reference to making a fundamental plan for the laying out of an exchange here locally in Houston, did the New York engineers come here and look over the ground, or did they just do it by correspondence?

A. No they came here. That was the figure that I mentioned of one hundred and eight days that they were actually in Houston.

Q. Isn't it true that a man on the ground would be much more

qualified to do that than a man who wasn't?

A. I think that we had a man on the ground too. Our men came here and conferred with the men on the ground and they furnished them practical information for doing the work all the time and they put their heads together with the men in Houston familiar with the situation and together they got the best answer that they could. don't want to give the impression that these people came here from New York and say they can make a better guess on conditions here in Houston than people here locally, but I do think that by supplying this information as to the general methods and the results of growth found elsewhere, they can contribute something and local men contribute something and together they get a better answer than if the locan men went at it independently.

Q. I believe you said yesterday that after having tested out rather thoroughly at Newark, N. J. the automatic system, that you are now actively engaged in installing that system

and would do so as fast as was practicable and you predict that within ten years the common battery system would be practically a thing of the past in the Bell System?

A. I think that we can look forward to that, yes.

Q. About ten years' time?

A. It may be longer than that? Q. Yes you thought about ten years.A. But that is what we are told.

Q. Who are the main manufacturers of automatic equipment, Mr. Rhodes?

A. Why we are planning next year to have equipment for about two hundred and thirty five thousand lines manufactured by the Western Electric Company and equipment for about seventy five thousand lines manufactures by the Automatic Electric Company of Chicago.

Q. Is the Automatic Electric Company now under the control and management of the American Telephone & Telegraph Company?

Do they own the stock?

A. Not so far as I know. Q. Not so far as you know? A. No.

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Q. It is a fact, is it not, that you have bought practically their entire output for the next few years, the Automatic Electric Company?

A. Why we have contracted for as much as they can manufacture and and under our specifications, yes. 543 introduce this in practice as rapidly as we can,

Q. The Western Electric Company itself is going to manufacture

that equipment?

A. The Western Electric Company is going to manufacture one hundred and twenty five thousand lines this year and they are building additions to their factories as fast as they can to increase the output.

Q. Well when this Preston building was erected Mr. Rhodes, just what work did the New York engineers do about this building, do

you remember?

A. Why I understand that the local people, as I recall it, it was Mr. Gates at that time, he came to New York on several trips and brought the proposed plans for the building to get whatever comments and suggestions he could from our people in regard to it.

Q. The plans then were prepared here?

A. The architectural plans were.

Q. And they had in mind what they wanted pretty well and went to New York and conferred with you about it?

A. That is very frequently the case.

Q. Now then these instruments, the transmitters, receivers induction coils furnished by the American Telephone & Telegraph Company to the Southwestern Company, and especially to its Houston branch, you think could be bought for \$4.50 per set because of the fact they could be bought in wholesale lots, large lots?

A. I think they could be bought in the size lot if the company undertook to furnish them. I think they could get

th-m at that price, yes.

Q. And that the investment in these instruments, including reserve for replacement and all charges against it, would be about 98 cents per station per year?

A. Yes, sir. That is, I think it would be not less than that. It

might be more but not less than that.

Q. And that much is the main specific charge that you can make

for work done exclusively for Houston?

A. Why I don't say it was the main specific charge. It is one portion of the service and I would not discriminate between that and these other services applying to the design of the plant and its operation and its maintenance. They are all of value and together they amount to the whole service.

Judge Powell: I believe that is all.

Redirect examination.

Questions by Mr. J. D. Frank:

Q. Mr. Rhodes at the time the properties of the Telegraph & Telephone Companies were taken over by the United Stats Government and the Postmaster General, do you know whether or not the Postmaster General made any investigation with reference to this license contract and 4½ per cent payment?

A. He did look into it at that time through his Post Office Committee which consisted of Judge Lamar, and Mr. Toons, and one other Post Office official whose name I don't remember. Oh yes,

Mr. David Lewis.

Q. Was this contractual relationship approved by them and the payment approved?

A. I understand it was. During the period of government operation our staff remained with the corporation and the wire administra-

tion continued this payment for our services.

Q. Now at the time this matter was investigated and the payment was approved, did the American Telephone & Telegraph Company have anybody on that board that investigated the subject and approved it?

A. In so far as I know at that time. That came up before the

advisory committee of telephone officials were appointed.

Q. Who was the Mr. Lewis that you speak of? That was Mr. David J. Lewis?

A. Yes, I am not sure that "J" was his middle initial but his name was Lewis.

Q. But what official position did he occupy under the supervision of the Postmaster General?

A. He was one of Mr. Burleson's advisors.

Q. Mr. Lewis was one of the greatest exponents of government ownership of Telegraph & Telephone Companies for a number of years prior to the period of government operation, was he not?

A. I understand that is so, yes.

Q. As a Congressman?

A. Yes. Q. Now would the American Telephone & Telegraph Company be able to carry on this work that you have mentioned if it did not receive these payments from the associated companies?

A. Well I don't know very much about that end of it, but

546 I should not propose that it could.

Q. I believe you testified yesterday that you would not need any such organization as this with the long lines department of the American Telephone & Telegraph Company.

A. Not anything like the extent that the organization is now.

Q. Just roughly can you give us approximately the number of men that are used in this organization for the purpose of carrying on this work that you have been describing, in point of numbers?

A. I think I mentioned that there were about five hundred and fifty employees in the two technical departments, the development and research and the engineering department and it is my impression that the entire general staff amounts to somewhere about a thousand people.

Q. And if one of these associated companies wanted to carry on work of this kind on an extensive scale, why they would have to

employ several hundred men to carry on this work.

A. I don't see any other way that they could do it.

Q. Now counsel has asked you if the engineers of the Southwestern Telegraph & Telephone Company could not carry on this work. If they were carrying on this research and development work, Mr. Rhodes, would they have time to do the work that they are now doing?

A. Well I didn't comtemplate that these same people would try to do it because it was my impression that they are all busy on the company's business now and if they undertook in the Southwestern to carry it on they would have to get all these people from the outside to do it.

Q. So far as the engineers of the associated companies are concerned they are busily engaged in the operation, main-

tenance and construction of the plant?

A. Yes, to do that thing that you are talking about would be to revert to antiquated methods in the telephone business. Many years ago that situation existed to a great extent that people around in the associated companies were occupying themselves with inventing, and the result of it was that they were not attending to their duties of properly engineering the plant and one of the things that has been accomplished has been to concentrate that work and specialize it in some place so that the man around the country would not be employed haphazardly but could stick to their job.

Q. You have stated that the repeater which you have described here used in connection with the toll lines, that enables the local exchange to obtain better long distance service, dozen't it Mr.

Rhodes?

A. It certainly does.

Q. It enables the subscribers in the city of Houston to talk, I believe you testified, to any part of the United States.

A. Yes sir.

Q. In addition to the instruments which the Southwestern Telegraph & Telephone Company have been using in Houston, they have also been using the patents owned and controlled by the American Telephone & Telegraph Company that exists on the other materials in this plant, have they not?

A. Yes.

Q. That is all a part of the 41/2 per cent payments?

A. Yes, of course in regards to these repeaters that you mentioned, you understand they get those under the 4½ per cent arrange-

548 ment just like the instruments.

Q. Yes sir, but I am speaking of the local material here in Houston, you mentioned some five or six typical examples this morning of the patents pertaining to the local exchange here which this exchange is now using and that is over and above the instruments which the company has been using here in Houston?

A. Yes, that is a different branch of the service.

Q. And in addition to that you have been doing this development and research work all of these years which will redound to the benefit of Houston, as well as other places.

A. Yes, that is a continuant proposition. Q. And you are carrying on this work?

A. Yes, more men and more people engaged on it now than at

any time as well as I can remember.

Q. With reference to the automatic, it is a fact that so far as the use of the automatic is concerned generally at the present time you are using them for extensions to existing plants, aren't you?

A. Well the fact is that for the next few years till we can make, or build factories to manufacture it and get other people to manufacture it for us, that the output will not much more than take care

of the extensions where new offices are required to be opened and where on account of overcrowding it is necessary to replace existing equipment.

Q. And you would not go into an exchange like the city of Houston and tear out the switchboards that you have here at the

present time and put in automatic equipment, would you?

A. We can't make it fast enough to do that.
Q. It may be something like ten, fifteen or twenty years before you tear out the equipment which is sufficiently serving the public at the present time?

A. Well it would be my hope that ten years would see the city

pretty well equipped throughout with it.

- Q. As a matter of fact, Mr. Rhodes, haven't a number of the commissions placed more value on these services which you have described than they place on the value of the instruments which are used by the companies? Are you familiar with the commission's decision?
- A. Now I am not familiar with them in detail as to that point. number of commissions I know have approved the relation and the In some cases I recall that they have attributed license contract. more value to the services than the instrument service but I couldn't name off-hand the particular commissions that did.

Recross-examination.

Questions by Judge Powell:

Q. I believe you said that the Postmaster General and his department has approved this 41/2 per cent contract?

A. Yes, sir.

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Q. The government during the war did not pay much attention to economy did it, to doing things in an economical way, it was to do them quickly and do them efficiently was all they thought about, wasn't it Mr. Rhodes?

A. Well I don't know, that is a pretty large question.

Q. Well isn't it common knowledge that they threw away hundreds of millions of dollars in order to get things done rapidly rather than in an economical way?

A. Well I don't think they did that in the telephone business.

Q. Well I am speaking generally, in the conduct of the war and the purchasing of materials in all these contracts, didn't it lose sight of being economical?

A. Well I don't know any more about that than what I have read in the papers and I have read statements in the papers that large

sums of money were spent with but little returns.

Q. That is what I mean, that the government did not scrutinize things much in reference to doing things in an economical way, they made their contracts and approved their contracts based largely on having things done efficiently and quickly.

A. That may be true.

Q. Being quick was the main thing they were interested in, had to

do it now. You said that you didn't know just what the total receipts over the United States amounted to from this 4½ per cent?

A. No sir.

Q. And that you didn't know the total expense of your department, of 505 men, whatever it is?

A. No, we are specialized so that I don't have anything to do with

the keeping of the account.

Q. Have you got any idea about the margin of profit in this department?

A. No.

551 Q. Could you furnish us in figures for any one year on that point you reckon?

A. No. I could not.

Q. I would like to know, some people have an idea that there is

100 per cent profit in it and I don't know myself.

A. Well, I have heard some testimony in a case once up in Missouri that the cost of the service was in the neighborhood of 90 per cent of what was received from it.

Mr. D. A. Frank: 92 per cent Mr. Rhodes.

A. (Continuing:) Well it was in the neighborhood of 90 per cent. Now I am telling you everything that I know about that.

Q. When was that testimony given, do you remember how many

years ago?

A. Why I think that it was about three or four years ago.

Mr. D. A. Frank: 1916. Of course it is our contention that it wouldn't make any difference if it were 100 per cent, which of course it is not, but it wouldn't make any difference what the per cent of profit is in that. The question before the court here would be the question as to whether or not the services were worth the money. Now we have not gone into that and don't intend to go into that because we don't think it is material. We don't believe it is material any more than to find out from the manufacturer of copper what he makes on copper or from the man who is growing poles what he makes on poles. If the poles are worth the money, that is the main thing we are interested in in this case. So that

if the services are worth the money and we think the evidence conclusively proves they are worth the money, it

would be immaterial what it cost. Now the court can easily see the embarrassment that we would run into on attempting to go into the cost. If the question of cost of these services would be considered material I think that the court would have the right to pass on that question. For instance the salary Mr. Rodes gets, and I don't know what salary Mr. Rhodes gets, it might be embarrassing to Mr. Rhodes — state because it might be more than he thinks he ought to have. The court in one case might feel that the expenses were too great, and in another case he might think they were re-sonable or another case he would feel they were less. To begin inquiry in any one case would be in a collateral way to set up an investigation that as I see it in the first place would be immaterial, and in the second place lead to investigations in 28 different states and 47

different tribunals attempting to fix the salary of Mr. Rhodes or any other man working in that department. As Mr. Rhodes has stated, the evidence in a case in Missouri showed that the cost of the services in a case in Missouri showed that the cost of the services for that year were about 92 per cent of the $4\frac{1}{2}$ per cent income but as I see it that would be immaterial whether it was 92 per cent or 72 per cent of 108 per cent. The relation is such that the associated company can cardly do without it. The one matter that Mr. Rhodes has not mentioned here, the financial services, is worth more at this particular time than the entire amount that is being paid. Take the new money that the Southwestern is obtaining and I don't mean merely for Houston because this is not merely a state proposition but a company proposition, it is the con-

tract that is made between the Southwestern Company and 553 the American Company and if any tests be applied the test that must be applied is whether or not the contract is the proper contract to be entered into between the American Company and the Southwestern Company as a whole. So that if it be advantageous to the company as a whole it as I see it could not be ignored even in the city of Houston. I believe that by the time we get through with the other testimony on the 41/2 per cent, or on the license contract as it is more properly called, that even the attorneys for the city will be convinced that this is an arrangement which we could not do without. It is an arrangement that as was intimated by a number of witnesses in some other cases that I have been in, that in a large measure explains the success of the associated companies. In other words, if the independent company could obtain these services and the financial services that the associated companies get, as well as the engineering, the legal, the financial, the accounting and the executive and other services rendered in addition to the instrument service, they would be in a position to go on and give service and stand the assaults that are made upon the companies to a very much better advantage. They would be able to do business in a broader way and a great many times go on just like Houston has been able to go on the last two or three years. While there has been a falling off in the revenue here because of the fact that the exchange in Houston is owned by the company that is operating throughout the entire state the exchange has not had to close or to into the hands of the receiver even though it has been operated at a loss. Of course that can't go on forever

and the time has come, as witnessed by this law suit, when we have to have relief and that comes in various forms and I believe a further investigation of this will convince your honor that the services are worth the money that we are paying for it and

that is the main thing we are contending before the court.

Judge Powell: If the honor please I am not going to make any extended reply to the remarks of counsel, except to say that I have not so much fault to find with the services performed for this 4½ per cent. My thoughts run along this line: Here is a corporation, The American Telephone & Telegraph Company, which is an organization and is doing business in many stated, its own business.

Now then instead of taking out a permit to do business in Texas as the American Telephone & Telegraph Company, which it could have done, just as well as organizing a new company and having it take out a permit to do business in Texas if the American Telephone & Telegraph Company had done that and operated this plant here directly instead of indirectly, then the profits it makes from any kind of contract it has will be part of this income, as for instance the Houston plant, and I don't feel that they ought to be permitted to get dividends or returns by license contracts through its manufacturing branch, the Western Electric Company and other ways by organizing subsidiary concerns and charging them for it. In other words as a matter of substance, the American Telephone & Telegraph Company is doing business in Texas now and whether we can sustain that as a matter of law, as a matter of fact in sound equity and principal, it is doing business and we

per cent and every other kind of thing to see what they are really making in Houston. In other words if you are making money in some other way, why you ought not to make any further dividends on the investment here. It looks like to me it is in a sense the organization of associated companies for the purpose of making contracts like this for the purpose of making money when the American Telephone & Telegraph Company could take out a Telephone & Telegraph Company and have one concern and one outfit all along the line. That is the way we are thinking.

Mr. D. A. Frank: The evidence in this case shows that the Southwestern was doing business in this state long before ever the American Telephone & Telegraph Company secured control of its stock. In other words the Southwestern was here first. Now if you wanted to re-organize the American Telephone & Telegraph Company and tell those people how to run that business, I suppose you might say to them that owning a majority of the stock of the Southwestern Exchange Company, you kill the Southwestern Company and go into the local business, but the American Telephone and Telegraph Company dosen't do any local business in the United States, hasn't a single exchange in the United States, it has nothing but long distance business. Now the total payment by the Southwestern Company according to the evidence was \$48,503.00. Mr. Rhodes has testified that the instrument service on the conservative basis he has put it, is approximately on each station 93 cents. That

would be just roughly, \$28,000.00. That would leave \$16,500.00 for all the other services. Now that would be the only amount that you would question if any at all and if the evidence in this case should be that the cost was 90 per cent of it as it was in another case, that would eliminate 90 per cent of the Sixteen Thousand and would leave in the case only about One Thousand Six Hundred Dollars. So that the dispute in this case would be hardly material. It would be hardly worth while—

Judge Powell (interrupting): Yes, if the court would conclude

that our local engineer and other people could not take care of the situation.

Mr. D. A. Frank: Weil of course they could not, if you would

just think about the work that is being done.

The Master: Your contention is that the work of the local engineer is not in any sense duplicated by Mr. Rhodes or his department?

Mr. D. A. Frank: Absolutely is. I understand you will not hold any further sessions this week. Mr. Pennell, our next witness, is our chief engineer and he will tell from his standpoint what the 4½ per cent service is worth to his company, and you will be able to find out from him just how his organization is prepared to make the general investigations that are being made by the general staff. There is not in any sense a duplication of effort at all and knowing as I do from personal observation the work done by both departments, I

557 know it is absolutely impossible for the work to be done by
Mr. Pennell and his staff. He has not get a staff trained
along that line, he hasn't got the laboratory and he hasn't got the

money to do the work.

558 ROBERT F. ESTABROOK, called as a witness by the complainant and after being duly sworn, testified as follows:

Direct examination.

(Questions by Mr. J. D. Frank:)

My name is Robert F. Estabrook, and I live in Glenridge, New Jersey. My place of business is in New York; I am a Traffic Engineer employed by the American Telephone and Telegraph Company and my office is in New York, 195 Broadway. I have been connected with the American Telephone and Telegraph Company since 1902—the summer.

With reference to my Telephone and Telegraph experience, I started out, upon graduating from school in 1902, and was employed at Pittsburgh under the direction of one of their engineers who was out there helping the Pittsburg Company in Traffic problems. I was transferred to that Company's pay-roll after several weeks, and stayed there four years, when I was made Traffic Superintendent of the Northwestern Telephone Exchange Company, at Minneapolis, and remained there until 1909 and was then transferred to the American Company, at New York, and have been there ever since. That was in the Traffic Department of the Engineering Department.

I graduated from Dartmouth College in 1902.

With reference to the word "Traffic" as applied to the telephone business, I will say, that in the operation of a telephone company, there are three main departments; the Plant Department, that constructs and operates the plant; the Commercial
Department, which has the business relations with the public, and
the Traffic Department, that, to a large extent, is responsible for
giving the service. It operates the switch-boards and provides the
service to the public. Now, in the Engineering Department of the

American Company, the same distinction is followed, of the Plant Engineers, Commercial Engineers and Traffic Engineers. The Traffic Engineers on the General Staff in New York work on the problems met by the Traffic Departments of the Associated Companies throughout the field.

The American Telegraph and Telephone Company maintains a staff of Traffic Engineers; it maintains a staff of about forty Traffic Engineers in the Engineering Department to work upon these prob-

lems-traffic problems.

The Associated Companies, such as the Southwestern Telephone and Telegraph Company, also maintain their own staffs of Traffic Engineers; every Associated Company has a staff of traffic engineers of its own. The Southwestern Company have a small staff of Traffic

Engineers in St. Louis, and they have a small staff of Traffic Engineers on the staff of the General Superintendent of Traffic

in Dallas.

With reference to the difference between the functions of the Associated Companies' Traffic Engineers and the Traffic Engineers upon the General Staff of the American Telegraph and Telephone Company, the work of the traffic engineers' staff of the American Telegraph and Telephone Company is confined to the work of the development of switchboards, the development of equipment improvement, development and improvement of methods for operating the switchboards and the study of methods for handling the operating service—in fact, all questions of a general nature that have to do with the giving of telephone service throughout the country.

The General Staff works on general problems and also on specific problems, which may be put up to them by any one of the Associated Companies that want their advice or suggestions, and to find out if anyone has been up against the same problems elsewhere; and the work of the Traffic Engineers of the Associated Companies largely has application to specific cases of the equipment which has been designed, and the development of different methods or operating dif-

ferent kinds of equipment—general studies of their own 561 specific problems as they arise there, while that of the General Staff relates principally to development and research

work.

Q. Do the Traffic Engineers of the Associated Companies do any

development or research work?

A. They frequently start something,—have some good idea, and that idea may be put up to the General Staff, but the problem of the development and study will almost always be carried on by the General Staff rather than by the Staff of the Associated Company.

Q. Now, this arrangement of the Traffic Engineering Staffs, both of the Associated Companies and the General Staff of the engineering Department of the American Company, does that mean that

there is unnecessary duplication of work between the two?

A. No, I think the arrangement tends to avoid duplication of work because if the general development work was to be undertaken by any one of the Associated Companies, of course, it would be carried on simultaneously in a number of places all over the country, but

by referring these general problems to one headquarters they are studied there by the man who specializes on that work. We have the advantage of the knowledge of what has been done in other ter-

ritories, and that arrangement undoubtedly results in a better job being done and in an avoidance of duplication.

562 Q. The work done by the General Staff is done on a larger

scale, then?

A. Yes, in many cases viere one company—it would not be big enough to warrant going into very extensively, but for all the companies it may be a considerable problem and well worth careful investigation.

Q. You have referred to the work done by the General Staff Engineers in the development of the switchboards. I wish you would

take up and describe some of that work.

A. It will help to explain some of the terms and give you an idea of what I am going to talk about to look at some photographs.

Q. (Interrupting.) Have you several copies of these photo-

graphs?

A. Yes.
Q. What is the first photograph?
A. The first photograph is a photograph of what is called a "Number One Common Battery Relay Switchboard."

Mr. J. D. Frank: We offer that in evidence as "Plaintiff's Exhibit No. 122."

(The photograph was thereupon received in evidence marked Plaintiff's Exhibit No. 122" Witness Estabrook and is filed 563

A. The portion shown in the photograph is only a small section of the total board, and starts with position "26" and runs down to about position "34." Now, that is the type of switchboard at which subscribers' calls originate.

(By Mr. J. D. Frank:)

Q. That is, local calls? A. Well, local calls. The call originates, and may be either a local or a trunked call; it depends upon the destination of the call, of course, and the size of the city.

Q. Now, by "trunked" calls, you mean one which originates in

one exchange and destined for one in another exchange?

A. Yes; and the second photograph, which I am going to show is a photograph of what is called an "Incoming Trunk Switchboard."

Mr. J. D. Frank: We offer that as "Plaintiff's Exhibit No. 123."

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 123, Witness Estabrook" and is filed herewith.)

A, Through which calls are completed, that is, incoming from another office in the same city.

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564 Q. Now, by another office, you mean another exchange

A. Another one of the offices that make up the exchange where there are several in that office.

Q. For example, a call from Preston to Capitol?

A. Requires the use, not only of the "A" switchboard, but also of this second type of board which is called a "B" switchboard. Now, turning back to the first photograph. I wish now to explain what

some of the things are that you see.

The positions that are printed on the board are the position numbers, that is, the numbers of the positions at which the operators sit, and an operator sits below each one of these figures, directly below the figures, and under figures 27, 28 and 29, appears what is called a section of the multiple. Now, the multiple is, in this case, consisting of 8,000 subscribers' multiple jacks; that is, in that section, under these three positions appear all of the 8,000 lines that receive their service in this particular exchange. You will notice just to the right of position 27, and to the left of position 29 a white line, which is painted down across the multiple on a little narrow strip of wood that divides the different banks, as they are called,—the jacks—the 8,000 lines, appear between those two white painted strips.

Q. Now, can one operator reach any one of those numbers? A. The size of the multiple—where those 8,000 lines appear has been carefully figured out, so that it is within reach of any-

one of the trhree girls that sit on that position. That section of the multiple is within reach of the girl that sits on position 28. Now, the operator who sits on position 27 reaches two-thirds of that multiple there, directly in front of her, on position 27, or one position to the left, on position 28. The remaining part of the multiple appears numbered position "29"; she reaches that, position 26,—in other words, in every three positions the whole multiple is repeated; that is, the reason it is called a "multiple" as every operator can reach every line in the exchange, either on the multiple directly in front of her, or to the left or right.

Q. That is, ring any number?

A. She can plug in and ring that line. Now, below the multiple appear about six lines of additional jacks, as they are called, which constitute the "trunk multiple." Now, the trunk multiple are the surplus which are used to reach other offices in the same exchange. Those are used where the call is not completed in the same exchange,

where it originates. Below that appear the answering jacks and line lamps, where the calls originate and are answered. 566

Now, each subscribers' line terminates on a jack, and right below that jack is a little electric lamp which burns when you take a telephone off the board. Just one thing more, and then I will pass on and go into the details. The equipment required for the use of the operator appears right below the answering jacks on the horizontal key shelf, and that consists of the flexible cords with which she answers the light which is calling and makes the connection either to the multiple, if it is a local call, or out-going trunked multiple if it is a distant office call. Then these cords are at the back of the position right up against the face of the switchboard, and in front of them, are the keys which the operator uses in order to connect her set to the call and in order to ring the called

Now, turn to the second photograph. This is a "B" switchboard. or trunk switchboard, in the same office, used for the completion of the incoming calls. There again the multiple appears, and below the multiple are the incoming trunks from other offices, which the operator uses to complete the connections from the distant office to the subscribers in the office concerned.

Mr. Duls: I notice right in front of that picture six of those 567 jacks. What are they for, in the center there? (Indicating.) A. Are you referring to the second photograph, or the first one?

Mr. Duls: Number 123,—one of those jacks.

A. Which jacks are you referring to? These are where the telephone operator who sits in the position makes connection to the position. I am going to get into some of these things a little later. Now, I want to show a diagram which shows a local multiple connection. I don't think it will take any explanation of this diagram.

Mr. J. D. Frank: We offer the diagram in evidence as "Plaintiff's Exhibit No. 124".

(The diagram was thereupon received in evidence, marked "Plaintiff's Exhibit No. 124, witness Estabrook", and is filed herewith.)

A. Now, that diagram represents any one of the positions you might have selected on the first photograph shown, enlarged and simplified, and shows how a connection to a subscriber in the same office is completed. To the left is shown the calling telephone and the line, omitting a great deal of apparatus intervening, brings

the signal in front of the operator; then the cord is shown which the operator has used to answer that signal. The set 568 over which the operator talks is shwon hanging down from the jacks used to connect her set with the position, and the dotted

lines indicate ordinarily the way in which she is connected.

Now, another cord, the other one of the pair which the operator must always use in completing her connection, is shown connecting to a multiple jack, 1775, I guess it is, yes, 1775 up in the multiple, and then an extension of that connection is indicated to the called telephone.

That is just as outline of the way in which a local connection is

made.

Now, on another diagram which I want to show, a more complicated situation is shown-where a call originates in one office and is completed in another office.

(By Mr. J. D. Frank:)

Q. Now, that's a diagram of a call circuit trunk connection, is it?

A. Yes.

Mr. J. D. Frank: We offer that in evidence as "Plaintiff's Exhibit No. 125."

(The diagram was thereupon received in evidence, marked "Plaintiff's Exhibit No. 125, Witness Estabrook", and is filed herewith.)

A. This diagram shows how the use of two different types of switchboard and of two operators is required when a call originating in one office is completed in another office. At the left, as before, is shown the calling telephone appearing on the position the signal for which appears in "A" position and with the connection put up just as in the preceding diagram, except at this time the calling board is connected with the outgoing trunk, as it is called. Now, the method by which the connection is secured is as follows: After the operator at the "A" position has received from the subscriber the number that he wants, she depresses a button on the left of her position, and you can trace it back from the words "Xall Circuit", the dotted lines to the button that she pushes. This button is connected with the call circuit directly to the telephone set and the ear of the "B" operator is in the distant office. She tells that "A" operator then assigns the call circuit trunk. Right above the words

"Call Circuit" on this diagram appears the words "Call Circuit Trunk". That call circuit trunk extends from the outgoing trunk multiple jack to the distant office and to the trunk "B" operator in that office has assigned and has connected to the number wanted appearing tin the "B" multiple in that distant office, and of course, from that "B" multiple there is direct connection to the telephone of the subscriber who is called. Now, in handling every call originating in one office and terminating in

another office, the services of two operators are required.

Mr. Howard: Mr. Frank, this seems to have taken on the aspect of a lecture on telephone operating and at least is very interesting, but the ultimate thing that we are here to learn about is not the mechanism of the telephone. Personally, to me, I care so little about these scientific things that they are not even fairly interesting. Now, this is a long drawn out thing, and what is the purpose of going into all of these details of mechanics in a lecture on a matter that we know is a small thing,—a small article? The most of us are not scientists, and, to be frank about it, I haven't the scientific intelligence to follow the gentleman with any great degree of pleasure. I believe this is offered with reference to the articles furnished

to the local company by the American Telegraph and Tele-571 phone Company with a view of justifying the charge of four anf a half per cent which they take from the gross earnings

each year.

Mr. J. D. Frank: Yes, sir.

Mr. Howard: Why can't we get right down to that and have this

gentleman tell us what they are?

Mr. J. D. Frank: That's just exactly what he is doing. I expect to show what parts we have here now and expect to show what the de-

velopment has been and that this development has been brought about under this four and a half per cent arrangement here.

Mr. D. A. Frank: And this testimony is going to be very short,

too.

Mr. Howard: If that's true, why, al-right.

Q. Will you continue, Mr. Estabrook?

A. I finish with the use of these diagrams. There is one other photograph that I would like to show which is a photograph of the back of an "A" switchboard, the same shown in the first photograph, and that simply shows the cabling through which the wires that constitute the multiple are carried.

Mr. J. D. Frank: We offer that as "Plaintiff's Exhibit No. 572 126."

(The photograph was thereupon received in evidence, marked "Plaintiff's Exhibit No. 126, Witness Estabrook," and filed herewith.)

A. Looking at that photograph there are 400 cables shown as white scripts at the top of the photograph containing about 25,000 wires; and below these cables are-appear the attachments of the cords used by the operator, and some of the relays and other apparatus used in giving the operator the signal and showing the condition of the connection.

(By Mr. J. D. Frank:)

Q. Now, as I understand it, this shows how the wires enter in the back of this "A" board, -how they are brought in there?

A. Yes.

Q. Do these photographs represent the backs of switchboards now in use in Houston?

A. Yes, these photographs show the type of switchboards em-

ployed in the Houston Office.

Q. Are these the same type of boards that have been used in Houston since the sonctruction of this exchange here, Mr. Estabrook?

A. No, the present boards are a matter of development

573

from many earlier and less efficient types.

Q. Now, has there been a steady process of improvement in the development of these modern switchboards such as are installed at Houston, and were these modern switchboards preceded

by other and less efficient types?

A. Yes, the earliest types were very different. One of the first types was known as a "Magneto Transfer." board and had a shuttle, or drop, which was thrown when the subscriber turned the crank, and the boards were of small capacity, were satisfactory and still are for exchanges in small cities, but they are absolutely inadequate for large cities; in fact telephone service couldn't be given today in large cities unless the modern boards had been developed. These first magneto boards were followed by what is known as a "Series Multiple Switchboard". These boards gave service up to a capacity of about 3,600 lines. The fact that they had a multiple by which an operator could get direct connection with more lines than would appear directly upon her position led to much quicker and more accurate service. That board is about ten or fifteen per cent more efficient than the preceding type. That was followed by a "3 General Standard Branch Terminal" board, which had a number of improvements that reduced the operators' work, time, and increased the possible size of the multiple, and reduced the necessity for trunk-

ing between exchanges. These boards in turn were followed by the first types of the present modern No. 1 "Relay" board, which had a common battery line signal, or lamp, indicating when the subscriber was called, and which had an automatic signal showing the status of every connection, so that the operator knew by a visible signal rather than by listening, what the condition was. These boards which preceded them, and so you will see there has been a steady increase in the efficiency of switchboards during the time that this development has been in progress.

Q. Now, have there been any subsequent improvements in the

No. 1 relay switchboard since it was first developed?

A. Well, since that board has been developed there have been no radical changes in the past, but there have been improvements in practically all the equipment employed in it, and the arrangements that have led to a further very material improvement in the service and the operating efficiency. It is necessary to say something, I think, about what is involved in switchboard operating. The time spent by an operator in handling a signal call is only about ten seconds, but that time is not spent in doing any one or two things, but is spent in ten to fifteen different operations that an operator has to perform in handling an ordinary telephone connection.

Q. You say the average time spent in handling a call is

575 ten seconds? seconds?

A. The average time spent by the operator in handling a signal call is about ten seconds; it depends upon the class of service and the distribution as between the different classes of service in the exchange, but that's about the average time for a local connection.

Mr. Howard: Ten seconds?

A. Ten seconds.

Mr. Howard: Do you call that good service?

A. That's not the operator's time in answering it. After the call has been answered there is still work to do. That's the working time I am talking about.

Mr. Howard: Oh, I see.

A. No, the biggest single item of expense in giving telephone service is the traffic department payroll, which is largely the cost of the operators' wages. The total traffic departmet payroll for the Bell System last year was around one hundred and eight million dollars, and of that amount about eighty-six million dollars was expended for the wages of the operators; so that the matter of having efficient methods is very important in the Bell System.

576 Another big item of investment of all exchanges is the in-

vestment in central office equipment, which is largely controlled by the efficiency of the operating methods. The investment in central offive equipment at the end of last year was about one hundred and eighty-one million dollars throughout the System. The operating efficiency, because it controls the size of the switchboards, also has a reaction upon the amount of the building investment. All of these things make it very important, of course, to do anything which will increase the operating efficiency, if that can be secured, by improvements in the equipment, or methods of operating. Now, since the first relay switchboards were designed, why, as I stated before, there hasn't been any radical change in the design of the board; there have been changes in all parts of the equipment; nearly everything has been improved in some minor way.

(By Mr. J. D. Frank:)

Q. Now, will you give us an idea of some of these improvements, and explain their importance?

A. I want to do this by using this drawing of an "A" position-

Mr. J. D. Frank (interrupting): I offer that in evidence as "Plaintiff's Exhibit No. 127."

577 (The drawing was thereupon received in evidence, marked "Plaintiff's Exhibit No. 127, Witness Estabrook" and is filed herewith.)

A.—on which the different parts of the equipment are labeled. Beginning at the top of that diagram is shown the subscribers' multiple. Now, the earliest boards of No. 1 relay type had a capacity for 4,800 lines in the subscribers' multiples; that capacity, by improvements in the jacks, consisting of reduction in their size, has been increased to 9,600 jacks. The increase in the size of the multiples makes it necessary to do less trunking, and so your service improves.

Q. You speak of these improvements,—who made these improve-

ments; -how were they brought about?

A. They were brought about—made by the General Staff Engineers, in collaboration with the manufacturers who, of course, made the equipment; but it is the development of the General Staff Engineers that I am talking about.

Q. That is of the American Telegraph and Telephone Company?

A. Yes, sir.

Q. Al-right, go ahead with your explanation.

A. Below the subscribers' multiple appears the out-trunk multiple as built now. Since the board was first developed there has been a very important change made in the circuit coupled with the outgoing trunks. The original circuit required to the distribution of the circuit coupled with the outgoing trunks.

outgoing trunks. The original circuit required that the incoming trunk operator at the distant office should herself ring the called station every time that a connection was requested until that called station answered or the call was abandoned. This trunk circuit was improved so that the ringing which was formerly done by

the operator is now done by a machine; that improvement not only saved the time of the operator but improved the service because the ringing is done by the machine more accurately than by the operator, and for the amount of traffic handled by that method in Houston there is a saving in the time of the operators that is worth about \$14,000.00 a year in operators' time saved, when equated to a money value, and is about \$4,000.00 a year more in the smaller number of "B" positions required.

Q. That is figured out as to how long it took to handle a call under the old system and how long it takes to handle a call under this

system?

A. Yes, the corresponding loads for the old manual method and the machine ringing method have been carefully determined and that estimate is based upon the difference in the work of the operator involved. Of course, the subscribers' answering jacks and the line lamps—there have been many improvements in the details; they

have better lamps and opals and more reliable relays. Below them we have what we call the kep shelves themselves, the cords used by the operators in answering calls and making

connections.

Q. Have any improvements been made in the cords?

A. Yes, that is, one of the examples where a little bit of improvement in the telephone business, which is simply a sequence in the accumulation of lots of little things, and becomes very important. Now, the early type of cord used was a steel cord and was very stiff, and the arrangement for returning the cord in place after it was used was very cumbersome. The engineers went over the problem of getting better cord; they wanted to get a cord that carried a longer load and was cheaper and more efficient, and after a lot of trials succeeded in producing a cord which had these improvements. The present cord we figure saves an operator about a second of her working time, in every connection, and about half a second on a trunk call on the board of the "B" operator, and for the traffic handled daily in Houston that simple saving amounts to pretty nearly 76 hours of the operators' time, and at the cost of operating labor in Houston, that amounts to pretty nearly \$10,000.00 a year. About one-third of the operators' time is saved in just handling cords, just putting them up and taking them down.

Mr. Howard: Has the Bell System any exclusive rights on this

little improvement?

A. Why, these particular cords are made by the Western Electric Company. No, I don't know that they have any exclusive rights to them.

(By Mr. J. D. Frank:)

Q. But these cords have been developed-

A. (Interrupting.) These cords were developed by the American Company and we think they are very superior to any other cord on the market. Other cords made by other manufacturers have been tried but we don't think they came up to this cord.

Q. Now, in making these improvements, Mr. Estabrook, you have

due regard to what it is going to cost to use that particular equipment as well as the time saved, do you? In other words, you try to effect economy in applying the new material as well as improving-

A. (Interrupting.) There are always two points in view,-of course, to handle the work more efficiently and economically, and to

give better service; those are the two cardinal things.

Q. Al- right. Is there anything else you have to sav on that? A. Why, the same thing as to all other parts of the apparatus.

I don't think it is necessary to enumerate them.

Q. Now, how are the Associated Companies kept informed of this work on switchboard development and other work done by the Traffic Engineers on the General Staff, and how do they get

581

A. There is a constant stream of correspondence between the engineers of the Associated Companies, and the engineers of the General Staff in which they ask for advice or tell us of some of their The Traffic officials frequently visit and consult the negineers in New York and the New York engineers visit the people in the field, and finally the matters relating to switchboard equip-ment, engineering matters, are sent out to them in the shape of circular letters, descriptive of the apparatus or methods and how they are to be used.

 Q. Have you any of those circular letters?
 A. Yes, I brought—on equipment matters there are about 35 letters out and I brought along two of them to show these matters. Now, the first circular is a description of one of the new type of switchboards that are employed. That's just the one "B" switchboard. It shows the conditions under which it is to be used: has information regarding all these service features and the equipment features, and tells the engineer of the Associate Company the conditions under which he wants to handle it.

Mr. J. D. Frank: We offer that as "Plaintiff's Exhibit No. 128."

(The circular was thereupon received in evidence, marked 582 "Plaintiff's Exhibit No. 128, Witness Estabrook," and filed herewith.)

A. Of course, there are a great many different circulars on different switchboards, or different pieces of equipment sent out. just illustrates one specific type of board. Now, that's our circular, which is "General Engineering Circular No. 644," is a book of instructions for the use of the Traffic Engineers of the Associated Companies, which tell them the conditions under which they want to employ all the different-in one of the different types of switchboards. This circular entitled, "Standard Traffic Engineering Practices for Local and Toll Central Office Equipments" describes briefly all the different types of switchboards, and the conditions under which they would want to be employed. It is a table showing the loads that can be handled, the amount, and from that determine the amount and quantities of the equipment; it tells the proper way in

which it should be arranged, and gives the traffic engineer very complete information that he needs in all his switchboard engineering work.

Mr. J. D. Frank: We offer that as "Plaintiff's Exhibit No. 129."

(The circular was thereupon received in evidence, marked "Plaintiff's Exhibit No. 129, Witness Estabrook" and filed herewith.)

A. Back of this circular are the thirty or more different specific circulars of which I have given one sample in the preceding exhibit.

(By Mr. J. D. Frank:)

Q. You stated your engineers go out in the field whenever they are needed and assist them in traffic problems?

A. Yes, they generally go out when they want us for any reason.

Q. Do you know whether or not any of your engineers have

visited the City of Houston and assisted the exchange here, or the State of Texas?

A. Yes, among the traffic engineers I know of about, I think, thirty-odd visits of traffic engineers to Texas cities, and about four

or five visits of engineers to the City of Houston.

Q. And then the traffic engineers for the Southwestern Company go to New York frequently and have conferences up there with reference to the traffic problems, in the State of Texas, including the City of Houston?

A. Yes, very frequently in New York, and the traffic engineers are very frequently down in this territory, usually in St. Louis, which

is the headquarters of the Southwestern System.

584 Q. Well, now, besides the work which the General Staff
Engineers have done on the improvement of switchboards,
do they work on other traffic problems for the Associated Companies?

A. Yes, besides the work done on switchboards and equipment development engineers are at work on the methods for operating.

Q. Well now, mention some some of these traffic problems that they work on?

A. Every type of switchboard has some peculiarity about it which must be met in the methods for operating that board, conditions over the country are generally very similar except as the difference in the size of the exchange on some special class of service may make some variation necessary. For that reason, the Associated Companies, a number of year- ago asked the American Company to study and standardize the operating practices that were best suited for each of the different types of equipment and that work was undertaken by the American Company about 1909. Work had been done on the subject earlier than that, when I first came into business, but by 1909 the exchange had got so big, and many of the traffic problems which when the exchanges were smaller were not serious, have become such important problems that it was felt necessary to

study the whole proposition and standardize the methods.

To do this work, the American Company took on additional

engineers; they sent their men to different states and territories to study the practices being followed by the different companies. They tried experiments and made efforts to improve the methods that were being used with considerable success. As far as any special subject was studied and a pretty definite conclusion arrived at, the matter was presented to the Associated Companies for their criticism and suggestion, and after their comments had been received, the practices were finally standardized. The standard practices were sent out just before the war and I want to offer a set of those practices as as exhibit. All of the Associated Companies, including the Southwestern, base their operating practices upon that work. In many cases, they use the subject-matter word for word and in other cases they modify it slightly for their local conditions. In all, there are about 300 different circulars which have been sent out on this subject. What I offer here covers forty.

Q. This here is local operating practices for the information and

guidance of the Central Office operating forces?

A. Yes, sir.

Mr. J. D. Frank: We will offer this in evidence as Plaintiff's Exhibit No. 130.

(The document was thereupon recived in evidence, marked "Plaintiff's Exhibit No. 130, Witness Estabrook" and filed herewith.)

Q. You know whether or not they are using this in Houston, Mr. Estabrook?

A. They are not using that verbatim, but they are using the practices.

Q. Al- right. Is there anything else you have to say on that subject?

A. No, I don't believe you wish to go into the details of the practices themselves.

Q. No, we will let the subject speak for itself. No, do you give the Associated Companies any advice or assistance with reference to the training of operators and the methods of handling their training schools?

A. Yes, the practices that have just been put in cover the methods which have been studied and standards found best suited for handling every type of equipment and different classes of service. Now, for use in training operators, the general staff has also prepared the instructions shown in this Traffic Circular No. 113.

Mr. J. D. Frank: We offer that as Plaintiff's Exhibit No. 131.

(The document was thereupon received in evidence, marked "Plaintiff's Exhibit No. 131, Witness Estabrook" and filed herewith.)

A. All of the Associated Companies, of course, have maintained schools for training new employees. There are very large numbers of new employees taken on each year. Dur-

ing the war this condition was particularly—this problem became particularly important because on account of the labor unrest, there was a big turn-over in the force, last year as many as 8,000 new operators had to be trained and taken into the Bell System and the basis for their training is this local operating text book.

Q. Is the matter of the original training of these operators of any

considerable importance, Mr. Estabrook?

A. Of course the training of the operator is a matter of very great importance because the equipment is designed and the whole system set up to be operated along certain defined lines and every new employee taken on must be taught her duties and the way in which the details of the operating work are to be carried on, or there is an immediate and serious reaction on the service.

Q. Now, do the telephone companies carefully work out the system of traffic records for studying the service and traffic results?

A. Yes, it would be impossible to handle the telephone business and the Traffic Department's part of the work efficiently or intelligently without adequate records of what is being handled. Those records are needed for all purposes or engineering, in order to estimate growth, to estimate the switch-board, wires and trunks that are going to be needed, also to estimate the size of the forces that

are to be required, and finally, of course, for determining 588 the efficiency with which the work is being done and the

quality of the service being rendered. In order to handle this problem most satisfactorily, standard sets of forms and records have been prepared by the American engineers, which are used by all of the Associated Companies in determining what their results are.

Q. Well, take up and mention some of these records and sets

that are made.

A. Well, I want to offer one set of the circulars, Traffic Circulars, 26, 27, 28 and 29, which describe the local and toll peg counts, as they are called. These peg counts are the record of the traffic handled at the switch boards, they are the basis of all engineering and for all studies of operating costs.

Mr. J. D. Frank: Now, this Traffic Circular No. 26, Local Peg Counts, we offer as Plaintiff's Exhibit No. 132. It is all included in here, 26, 27, 28 and 29. We offer that as Plaintiff's Exhibit No. 132.

(The document was thereupon received in evidence marked, "Plaintiff's Exhibit No. 132, Witness Estabrook", and is filed herewith.)

Q. Al- right, now go ahead.

A. There are about 50 different traffic forms which are also needed

to completely cover the operations of the Companies.

Q. Well now, Mr. Estabrook, what do you mean by "peg 589 counts", "local peg counts" and why is it necessary to have any such thing as that? Of what benefit is it to the local company to make a study of that kind?

A. Well, the "peg count" is a record of the traffic handled. It is the basis on which all the future requirements in equipment, in location and size of buildings, and trunks between offices and the number of employees that are going to be required, the size of their quarters, everything that has to do with the growth of the plant pretty nearly is fundamentally dependent upon the growth in the traffic, and the peg count is a record of the amount of traffic classified into the different kinds of service and different kinds of stations, containing information as to the loads that are handled, and it is the basis of our comparisons of efficiency that are made.

Q. Are those peg counts taken frequently?

A. The peg count is taken on two days of each month.

Q. Now, are similar peg counts taken in connection with the

operation of the toll boards?

A. Yes, the same general form of record is kept of toll traffic as is kept of local traffic and it is used for the same general purposes.

Q. Now, is that all you had to say with reference to that now?

A. Yes.

Q. Do the American engineers assist the Associated Companies further than the application of these traffic records?—in matters of direct management?

A. Yes, work of that nature has always been done upon 590 request of the Associated Companies. The engineers visit them and help them upon matters of organization for their central office force on service problems that come up. One example of that work is work that has been done in the matter of what we call "force adjustment", the providing of an edequate operating force for central office is a very complicated problem, to do the work efficiently, because the requirements throughout the day are constantly changing from hour to hour. Every exchange has a typical traffic curve, as we call it. The business is, of course, light in the morning, comes on heavy during certain forenoon hours, falls off again at noon, may become fairly heavy again in the afternoon. and becomes light during the evening. Of course, telephone work is 24 hours a day and 365 days a year, and the problem is to provide the required force at every hour of the day and night and not have an excess force at any time or an inadequate force. back as 1907, one of the engineers of the American Company went pretty nearly all over the country studying this problem and upon his return, his investigation was written up and new method of handling that problem developed and submitted to the Associated Companies in a circular letter. It was found that in many places the methods employed were not adequate or giving satisfactory re-I would like to read a paragraph from the circular letter, it says, on page a: "Even if the average saving, however, should be much less than that shown in the particular offices considered, the total amount involved will still be large. From the data at 591

591 total amount involved will still be large. From the data at hand, I should estimate that the total possible saving in all the Bell Companies might equal nearly a million dollars a year." From that time on, the subject has been constantly studied,

and the latest circular on that subject is Traffic Circular No. 117, on "Adjustment of Force." This circular goes very carefully into the highly technical methods that must be employed in order to get an economical adjustment on the forces.

Q. Have you several copies of that circular?

A. Yes.

Mr. J. D. Frank: First, let's offer in evidence that circular form from which you read there. We offer that as Plaintiff's Exhibit No. 133, I believe, and then we will offer in evidence the circular on Adjustment of Force, as Plaintiff's Exhibit No. 134.

(The documents referred to were thereupon received in evidence, marked respectively "Plaintiff's Exhibit No. 133, Witness Estabrook", and "Plaintiff's Exhibit No. 134, Witness Estabrook" and filed herewith.)

A. The result of the use of those improved methods is saving many millions of dollars a year throughout the Bell System.

Q. Is that all you have to say on that subject?

A. Yes.

Q. Now, Mr. Estabrook up to this time, the work you have been describing all has reference to local operating and service problems in connection with the operation of local exchanges, has it not?

A. Yes, almost entirely.

Q. Now, has similar work been done on toll traffic problems by the

general staff?

A. Well, while not as large a force has been employed on toll problems as on local problems, some work has been done on all the toll problems. Special switch-board equipment, of course, has to be designed and employed for handling the toll service. In the last dozen years the toll switch-boards have been re-designed and it has been found an advantage to have special types of toll equipment for special methods and special kinds of service. That work has been done by the American Company engineers. Work has also been done on the development of the toll operating methods, and the result of this work has been that both the service has been improved and the cost of giving the services,—the operating portions of the cost have been simultaneously decreased. The operating practices which are employed throughout the system are incorporated in another practice circular which I have copies of.

Q. You have several copies of that?

A. Yes, sir.

Mr. J. D. Frank: We will offer that as Plaintiff's Exhibit No. 135.

(The document was thereupon received in evidence, marked "Plaintiff's Exhibit No. 135, Witness Estabrook" and filed herewith.)

Q. Mr. Estabrook, do you know of any charge, other than the 4½ per cent payment for certain receipts for the services that are rendered by the American Telephone & Telegraph Company?

A. No. I don't.

Q. Mr. Estabrook, one of the witnesses for the City in this case has testified that the traffic expense- for the City of Houston are excessive, the calling rate is not as great as it should be upon the part of the local operators. Have you made any study of the conditions in other cities of practically the same size of the City of Houston with reference to those matters?

A. Yes, I have looked over the December Traffic Reports for a group of 16 of the Bell cities, which included the seven cities throughout the country that were next larger in size of stations, and six cities that are next smaller, so it is a group of fairly com-

parable cities.

Q. Now, will you mention those cities before you start in to ex-

plain the result of that study?

A. No, I haven't got them. The cities were Providence, Oakland, Cal., Fort Worth, Newark, Jersey City, Oklahoma City, Columbus, Syracuse, Houston, Nashville, Memphis, Des Moines, Dallas and San Antonio.

Q. Now, what was the result of your investigation?

A. That out of those cities, six of them showed that the traffic cost per thousand units, which is the basis of comparison which we

ordinarily use, that six of those cities, the cost were lower and 594 that six of the cities they were higher, and one showed the same cost.

Q. What was that one, do you know?

A. Let's see. It was Dallas.

Q. Dallas, Al- right, go ahead. What else was shown by your study?

A. In those stations, of course, the cost per thousand units is largely dependant upon the loads handled by the operators, and six of those cities handled slightly higher loads and seven of them handled slightly lower loads. Now, the cost, of course, depends upon the wage rates paid employees and three of the cities paid slightly higher wages and one practically the same, and none slightly less wages.

Q. That is, wages to operators?

A. Wages to operators is what I was talking about, yes. Q. All right, in the matter of service, the line signals?

A. Four cities showed a quicker answer and nine showed a slower answer, and in the matter of errors four of them fewer erro-s, two of them showed practically the same, and seven showed greater errors. In other words, Houston seemed to be a pretty average situation in so far as traffic results are concerned.

Q. Both as to traffic expense and to the service which is being

rendered and the efficiency of that service?

A. Yes.

Cross-examination.

595 (Questions by Mr. Howard:)

Q. Mr. Estabrook, what are the functions of the American Telephone and Telegraph Company?

A. What are what?

Q. What are the functions of the American Telephone and Tele-

graph Company,—what business does it conduct?

A. The American Telephone and Telegraph Company, so far as my knowledge extends, operates certain long distance lines connecting various companies and it has an interest owns a majority of the stock of most of the Associated Companies which are giving the local service in different territories.

Q. Headquarters in New York City? A. Headquarters in New York City.

Q. They are engaged largely as a consulting engineering com-

pany?

A. The Engineering Department of the American Company certainly acts in a consulting capacity for the various Associated Companies.

Q. How many engineers are attached to its staff?

A. The engineering staff consists of about a little less than three hundred people. There is also the Development and Research branch, that I think has something under 200 people. I don't carry that figure in mine. Now, of the slightly under 300 people in the engineering staff, there are 150 that rank as engineers, then there are clerks, stenographers, and draftsmen.

Q. Do you know anything about the average salary of enginners?

A. No, I haven't any-

Q. (Interrupting.) In other words, you have made no 596 investigation and no study to tell what the cost of the service rendered to Associated Companies by the American Telephone & Telegraph Company is?

A. Well, of course the salaries of the engineers would only be

part of the expense.

Q. I understand.

A. But I have never made such a study, no.

Q. You couldn't have arrived at the cost without making a study of those details, could you?

A. No, sir.

Q. Then you are not here to give us any information at all upon what the cost of the service is that you furnish to the Houston Exchange?

A. No. Q. You can't do that? A. I couldn't do that.

Q. You are only here to tell us in a general way that the American Telephone and Telegraph Company performs a good deal of services for a great number of exchanges and long distance toll lines and manufactureries throughout the country?

A. That is practically what I have been doing.

Q. That is what you are here to do?

A. Describing the work that the traffic engineers do in a general way for the Associated Companies.

Q. You can tell it in a general way only, and do not undertake

and will not undertake to say even approximately in dollars 597 and cents what the services are they render? Or what it costs them to render it?

A. I couldn't say what it costs them to render, I don't know.

Q. Or you couldn't tell even approximately the financial benefit derived by this particular exchange for any year?

A. I know that the service is of very great value because all the

telephone development largely comes through that.

Q. It is of very great value and that is the sum of your testimony. You come here and tell us that it is a very valuable organization, efficient in its functioning, and that you know it does render services of value to the Associated Companies?

A. Yes, sir, I know that.

Q. And that's all you do know Mr. Estabrook?

A. Well, I know that,

Q. Well, I mean, that's all you knew, I don't mean that is all you know in your technical or professional sense. I don't mean to say that is the limit of your intelligence, but I mean to say that is all that you can tell us that bears directly upon the issue at hand to enable us to find out how much benefit you are giving us down here.

A. I can only tell you the work that we do.

Q. Approximately yes. It is the work that you do in a general Now, Mr. Estabrook, you have detailed here in a rather scho-arly, and to a scientific mind, I suppose, rather an interesting way, some of the details of the operating mechanism of a switch-

board, and of conducting calls and this communication that

goes on here among the people of this city, you don't claim, I take it, that the American Telephone & Telegraph Company has any monopoly upon that knowledge, the things that you have detailed here about the jacks and the plugs and trunking of calls and all this mechanism is something that is rather an open book to scientific men of this day throughout the country, isn't it?

A. Why there are a great many people outside of the Bell System

that know something about telephone operating costs.

Q. A great many people that know it?

A. But I don't think there is any place where you could go to get

the same information.

598

Q. In other words, you are the largest and best organization and employ more men than any other organization, but the matter of the mechanism, while it is not known to me and might not be known to Judge Powell here and might not be known to thousands, is an open book and an established fact to men in the telephone world and in the engineering world, are they not?

A. No, I don't think that is true to a very large extent.

Q. Well, there is nothing, to a scientist, or a specialist, properly speaking, there is nothing mysterious about the mechanism of this exchange downstairs or upstairs, is there?

A. That is true, but I can give you this illustration. Every few months, for instance, not every few months, but every year or so,

we have visits from engineers, and we find that their methods 599 while they are using very much the same equipment, for instance, yet their methods are in very large respects different from ours and we think they are not nearly as good and efficient as ours.

Q. And upon the principle of reciprocity, you consult with engineers and telephone men outside of the 16-story building in New York City, don't you? In other words, you don't all get up there in that building and study these problems and go down into your laboratories and work and shut your eyes to the great outside world,

A. No, we are constantly getting the idea of the engineers of the

Associated Companies.

Q. And if you see a good idea, and a good engineer in an independent telephone, if he has got any ideas you interchange with him, don't you?

A. Well, personally I don't do that.

Q. Well, when I am talking about you, I am talking about the concern you represent.

A. Well, in a general way I don't know of cases where that has

happened.

Q. You mean to say that you don't seek out the knowledge of

other men, find out what they are doing?

- A. Well, I am not stating that, but I am stating that as far as my experience has gone, and on traffic matters, I don't know of any occasion where we have gone to other telephone and outside assistance.
- Q. Well, I understand that. Tell me one thing, Mr. Estabrook, that the American Telephone and Telegraph Company has furnished to the telephone world in the last ten years that is at all startling in its nature and wouldn't be, or some similar matter, suggested to the ordinary scientific mind that has made any

special study of the subject?

A. Well, I think that there are-

Q. (Interrupting.) Well, name me one.

A. Outside of my own line in traffic work, the Transcontinental telephone.

Q. Transcontinental? What do you mean by that?

A. Is one startling thing. Q. What is that?

A. I think the transcontinental telephone was a new and startling-

Q. (Interrupting.) What do you mean by that?

A. I mean, the ability to talk from New York to San Francisco. Q. But I am talking about this local exchange. We are not talking to San Francisco.

Mr. D. A. Frank: Your question was general and you asked him for one single thing.

Q. I am asking you for one single thing that the American Telephone & Telegraph Company has produced for this exchange that is at all startling in its nature and that would even cause any great surprise to the mind of a man well informed in the subject.

Mr. D. A. Frank: Before the conversation is over, -- one pair of wires.

A. Well, you are referring, I assume, to traffic. You are limiting this to the kind of thing about which I have testified?

Q. Well, throw it wide open. Take anything that is beneficial to the local exchange that we would call an extraordinary discovery or invention.

A. Well, there are various things that made this transcontinental

long distance telephone possible, I think, come in that class.
Q. You are talking about—I take it you are talking about improvements or extended calls. Of course, long distance calls are not recent things.

A. There are certain inventions that have made that possible. You mean, that have made it possible to talk at long distance?

A. Yes, have made it possible. The talking at shorter distances

through more cable, for instance, has greatly increased-Q. (Interrupting.) What is the one thing that has been used here in this local exchange?

Mr. D. A. Frank: He has just told you and you interrupted him. You interrupted the stenographer while he was taking down what the witness said. You interrupted the witness before he got it out of his mouth and it isn't courteous to him.

Mr. Howard: I don't mean to be discourteous to Mr. Estabrook. I just want to find out what he knows about this subject.

Mr. D. A. Frank: Well, he knows it. 602

Mr. Howard: I don't doubt he knows it. I just want him to tell us.

Mr. D. A. Frank: Well, he will tell you.

Q. He says he will tell us. Please tell us.

A. Well, sticking right to the switch-board, the local, which I

understand you want-

601

Q. Well, let's take specific matters. You took up this matter of jacks a while ago. By reducing the number of pegs or holes, whatever you call them, you found it possible to attach more wires to the same size board, that is, in simple language, that is about what you did, isn't it?

A. Yes, that is about what I did.

Q. Al- right. What is there about that that would appear to be original, or that isn't-wouldn't suggest itself to anybody, that if you reduce the number of—the size of a number of holes in a board that you will get in more wires? It wouldn't take an engineer to get that idea-

A. (Interrupting.) Perhaps it would have suggested itself to anybody in time, but it suggested itself to us and was developed by the general staff.

Q. Have you got it protected in any way?

Mr. D. A. Frank: Let him finish his sentence.

Mr. Howard: He has finished it.

603 A. Why, I think you will find the plugs and the jacks used

in the switch-board all bear patent marks.

Q. Now, let me understand you. No company outside of the American Telephone & Telegraph Company can install one of these boards that provides for the reduced number, the size holes and the consequent increased number in the attachments to the board? They have the exclusive privilege of the installation of those kind of boards. is that true?

A. No, the boards used by the Associated Companies, and built by the Western Electric Company according to their specifications are not similar to the boards built for other independent companies.

for instances, if that is what you are driving at.

Q. No, what I am asking is-

A. (Interrupting.) They have much of the same equipment on them.

Q. What I am driving at is: If any Independent Company, if we are an independent company in here and not receiving all these benefits, whether we could go to any factory and buy these boards without paying tribute to the American Telephone & Telegraph Company on account of their invention?

A. You can buy switchboards from independent manufacturers. of course, and probably boards of the same capacity. I don't know

what the price would be.

Q. You don't know anything about the price?

A. Or how the boards would compare in other respects. mentioned only one feature.

Q. In other words, your invention on your new idea along 604 that line wasn't such as you could have protected and isn't such that you have protected?

A. In that case, I imagine the simple jack was protected.

Q. You don't know?
A. I don't know.
Q. But you do know you could go to independent companies and buy boards that involve this same principle of reduced size holes and consequent increase in the attachments, you could go to independent companies and buy them?

A. Yes, you can buy jacks of approximately the same meas-

urements, but they are not the same jack.

Q. But if you can go to the independent companies and buy boards that involve that same principle, where have you furnished this particular exchange any service by making the discovery? A. The mere fact that we provided them in the first place.

Q. What we are getting at,—what we are paying you for is something that you are giving us that is of special service. Now, if you can go to an independent concern and buy these boards-

A. (Interrupting.) You can't go to an independent concern

and buy these boards.

Q. Well, I mean, boards involving the same principle, the principle of having permitted the cord, as I understand it, by bringing together the connections, to reach more, isn't that the principle as applies to the traffic expense?

A. Well, I don't think I recognize it in the way you point it out.

Q. Well, you state it then in your knowledge just in what

way it helps the traffic expense and makes-

A. (Interrupting.) It helps the traffic expense in that the larger the board is within certain limits, the less necessity there is for trunking, to other offices, and the less trunking there is the less labor there is involved and the better the service.

Q. That is the idea. Concentrating the wires into one board you avoid this expense and that is the principle involved that you have

been able to concentrate your wires, isn't it?

A. Yes, that is one of them.

Q. That is the principle. Now, you can go to independent companies, manufacturing companies, an independent company can go and buy that board as well as this company can, involving the same principle of concentrated connections?

A. That is true. But the same thing is true if you are buying an automobile, you can go to any manufacturer and buy an auto-

mobile that has the same principle.

Q. Well, then, the thing finally comes down to the proposition that although you have no protection upon the principle and don't give this Company, this local exchange here, any protection upon that principle, that the benefit it gets is because your particular article involving the same principle is superior to the other article involving the same principle?

A. Well, I don't think that the benefits of the 4½ per cent arrangement, that is what we are referring to, under which the American Company does development work for the Associated Companies, is confined to that one aspect by a great deal. There are things under development all the time. It is a

continuous service.

Q. I understand, but you have cited this as one of the benefits and I was trying to see whether you can sustain yourself with it or not, and as I understand now, we have gotten to the proposition that an independent company can get this same principle, as well as this Company which is paying for the privilege?

A. That is one of the things.

Q. And it is; you have stated this as one of the things that made your work so beneficial to this exchange, not all the things, but one of the things.

A. Yes, I stated that as one of the things.

Q. And the independent company can avail itself of it as well as the associated companies; we are together on that, too, aren't we?

Mr. D. A. Frank: No, he hasn't said that.

A. Independent Companies can go out and buy boards—

Q. (Interrupting.) Involving the same principles of concentrated connections?

A. Yes, has the same sized multiplies.

Mr. D. A. Frank: He hasn't told you what they pay for them, though.

Mr. Howard: Well, if you want to testify,-I was talking

607 about his own proposition.

Mr. D. A. Frank: You are assuming all the way through your examination that the evidence in this case shows that there were no patents protected. There were over 3,000 patents protected.

Mr. Howard: We heard about 3,000 patents, but we don't seem

to find them.

Mr. D. A. Frank: You had better read the testimony in the case.

Q. Now, you have said these improvements have been made largely in co-operation with the manufacturer. Now, when you spoke of the manufacturer, you meant the Western Electric Company, I expect?

A. I do on those particular things.

Q. Now, does the Western Electric Company pay you any premium or any salary or any compensation for your engineering work in assisting them in evolving their propositions and manufacturing their articles?

A. I don't know what the arrangements are between the Amer-

ican Company and the Western Company.

Q. You don't know whether the American Telephone & Telegraph Company gets compensation from the Electric Company, or not?

A. I don't know. I don't know what those arrangements are.

Q. But at any rate, they get the benefit of it, do they not? The
Western Company gets the benefit of it?

A. Well, the American Company gets-it is a mutual bene-

fit.

608 Q. I see, but the Western Electric Company, in the manufacture of its articles avails itself of the services of the American Telephone & Telegraph Company and its engineers?

A. Well, I should think you would have to ask them about that Q. Well, I believe you stated, I was just stating in a different way what you have already testified to. You have told us that the engineers in these improvements co-operate with the manufacturers. Well now, we have limited that to the Western Electric Company.

A. Well, perhaps this will make it clear, that the American engineers determine the design of the equipment to be made. The

Western Electric Company makes it.

Q. It comes in. When the equipment is made, who does it belong to,—the American of the Western Electric?

A. When it is made?

Q. Yes.

A. Well, I don't know.

Q. Well, aren't you somewhat familiar with the workings of this company that you represent, Mr. Estabrook? I want to know. We want to get down to know what we are paying for, that is all.

A. I will have to ask you to repeat your question.

Q. (Question immediately preceding read to witness.)

A. Well, I think I am somewhat familiar along certain lines.

ves.

Q. But they do this engineering work, and get up a design and submit it to the Western Electric Company, am I right so 609 far?

A. Yes.

Q. Then the Western Electric Company manufactures the equipment?

A. Yes.

Q. Included in that manufacture is the work and labor and the engineering service, or being furnished the design?

A. No.

Q. It is not?

A. I don't think so.

Q. Well, just kindly explain that to us now. I have understood you to say that the American Telephone & Telegraph Company furnishes the design.

A. It does.

Q. Isn't it worth anything to the manufacturer?

A. I assume that is the case.

Q. But the designing of the equipment, that is the engineering work. If the American Telephone & Telegraph Company didn't do it, they would have to do it themselves, they can't build it until they get their idea down in some sort of concrett form, can they, Mr. Estabrook?

A. This is stuff they are building for associated companies, I

assume?

610

Q. I don't know what they are building. You have told us about improvements that finally find their way into this local company here,-not company, but exchange. Now, you have told us that these engineers in co-operation with the manufacturing

company bring about these improvements in equipment,-

that is true, isn't it, Mr. Estabrook?

- A. There has to be collaboration of costs before equipment is purchased. One set of men design it and the other set manufac-
- Q. I don't know whether it has to be or not. Whether it is enforced or a voluntary co-operation, we will assume that there is that co-operation-

A. (Interrupting.) Well, they both participate in the work be-

fore it is completed.

Q. Well, now, let me ask you as an engineer, whether the designing is any part of the manufacturing or necessary to it, whether a manufacturer has to have a design before he can construct?

A. He has to have a design, of course, before it can be constructed.

Q. Must be a design?

A. Yes.

Q. Them it is worth something then to have the design, or plans submitted to the manufacturer, isn't it?

A. Yes, it is worth something to the associated Companies.

611

Q. Well, it is worth something to the manufacturer?

A. Because the equipment costs less.

Q. We are not coming to the associated companies yet, other than the Western Electric Company. We are confining ourselves to this The American Telephone & Telegraph Company fur-Company. nishes a design and plan and upon that plan the Western Electric Company constructs-

A. (Interposing.) The equipment for the associated com-

panies.

Q. Constructs the equipment. Then the associated companies buy the equipment, don't they?

A. Yes.

Q. And pay for it?

A. Yes.

Q. And put it into the local exchange.

A. Al- right.

Q. And the local exchange, we are assuming is what we are trying to show pays—the public where the local exchange is operating. pays such rate as will pay a return upon the value of this particular equipment?

A. Yes. Q. Now, then, when it comes into the exchange, it comes in here including the engineers' expenses, does it not?

A. No, I think it comes without that.

Q. Why not?
A. Because that development expense is paid by the American Company.

Q. Is paid by the American Company?
A. The stuff costs—

- Q. (Interrupting.) Then the American Company, according to your idea-have you familiarized yourself with this enough to know?
 - Mr. D. A. Frank: He has told you he has.

Q. Al- right, then, after this article is manufactured and 612 it becomes subject to sale now to the consumer?

A. You mean the associated companies?

Q. Has the American Telephone & Telegraph Company an interest in that manufactured article, in the manufactured equipment?

A. The American Company is the majority stockholder of the Western Electric and it is the majority stockholder of the Associated Company in both cases.

Q. Yes, I think we are agreed upon that, Mr. Estabrook, that they

are the same thing.

Mr. D. A. Frank: No, he didn't say that.

Mr. Howard: I am assuming it is bound to have an interest.

Mr. D. A. Frank: He didn't say that either.

Q. Well, Mr. Estabrook, treating them now as different companies-

A. (Interrupting.) Treat what as different companies?

Q. The American Telephone & Telegraph Company and the West-After the Western Electric manufactures an article now, has the American Telephone & Telegraph Company any interest in that manufactured article?

A. Only such as he gets, I should say, through its interests in the associated company, assuming that that is the purchaser and the

Western Electric Company.

Q. Only such, Well then, whatever services the American Telegraph & Telephone Company may have rendered have merged into the manufactured product, haven't they, in that respect? Those engineering services have merged into and become a part of the manufactured product and the people of this community but the product and put it in at the manufacturer's cost,

The situation seems to be this: That the A. (Interrupting.)

Western Company, for instance-

Now, do you? Unless you do know-Q. (Interrupting.)

Mr. D. A. Frank (interrupting): Let him answer the question.

Q. Do you know what the arrangement is between the American Telephone and Telegraph Company and the Western Electric as to whether the American Telephone & Telegraph Company gets any compensation for engineering services?

A. I understand they don't. At least, I don't understand they do.

Q. You don't know?

A. I don't believe that any part of-

Q. (Interrupting.) Do you know, Mr. Estabrook? Do you know what the arrangement is between them in regard to this manufacturing of equipment?

Mr. J. D. Frank: Just answer the question yes or no.

A. No, I don't believe I know. 614

Mr. Howard: Then there is no use to pursue that any further, because you don't know.

Q. Mr. Estabrook, all these matters you have been testifying about this morning apply to the equipment of one kind and another

that's used in the local telephone exchanges, do they?

A. Some of it applies to equipment, some of it applies to the methods of using the equipment, and some of it applies to the methods of running the offices-handling the forces. It is more than just a matter of equipment; in fact, a good part of the traffic problems are more than matters of equipment—they are matters of the operation of the equipment and the handling of the traffic forces.

Q. Mr. Estabrook, can independent companies buy this equipment

from the Western Electric Company?

A. It is my understanding that they can buy part of the equipment, or most of the equipment, but they do not buy the equipment set up to our specifications and arrangement; they don't buy the complete switchboard units as specified and sold to the Bell Company. A switchboard built by the Bell Company is built according to certain definite specifications covering not only the equipment and material, but the way they are assembled, and everything else.

Q. The Bell Company has their own ideas?

A. They have their own standards that they want to have followed.

Q. There are concerns that are more extensively engaged in the manufacture of independent equipment, are they not?

A. Yes, there are manfacturers of independent switchboards and

other telephone apparatus.

Q. Have you ever talked to them—to any of those gentlemen?
A. Yes, I have talked to them but not on business; I have met

then and talked with them, yes.

Q. Have you ever gone into their factories to see what they were doing?

A. No.

Q. You might get some pretty good ideas there, might you, Mr. Estabrook?

A. I really don't feel that we are ever apt to learn much.

Q. How did you arrive at that conclusion? You want to keep

abreast of the times, do you not?

A. Well, from the little experience I have had, I don't think that their equipment is as good as the stuff we have,—I haven't very much experience.

Q. And you have reached that stage where you say you are self-

satisfied?

A. No, we are at all times maintaining this department, and are

constantly seeking for better stuff.

Q. Yet, you don't go to other companies to find out what they are doing, whether they have got a pretty likely establishment and if they have some pretty good ideas and are working them 616 up?

A. Well, that would not be-

Q. (Interrupting.) When I say you I mean the members of your staff.

A. On that particular point I do not know.

Q. What are you,—just one of the staff? Or, did I understand you to say that you were a supervisor, or head, of some department?

A. No, the traffic branch of the Engineering Department is under Mr. Watterson, and I am one of the three superintendents who report directly to him.

Q. These independent manufacturers think pretty well of their

own equipment, don't they?

A. I have no doubt they do.

Q. I expect if they came here and were asked about it they would say as you do about yours,—that they have every reason to think that they would tell how much they have done for the telephone industry.

Mr. D. A. Frank: Why don't you bring them here?

Mr. Howard: We are poor, Mr. Frank, and want to grab what we can get.

A. Why, I think if you take away from the modern switchboard the things developed by the Bell engineers you would have very little left.

(By Mr. Howard:)

Q. That's your idea about it, but I am asking you if you ever talked to any of these men, and whether they feel pretty 617 well satisfied with the work they are doing?

A. I haven't talked with them along that line and can't tell

whether they are satisfied or not.

Q. You haven't investigated along that line?
A. No.

Q. Do you have any record of the name of the last engineer you sent down to this town, Mr. Estabrook?

A. Well,-the last one you want? Mr. Walker was the last one,-

he reports to me.

Q. When did Mr. Walker come down here? A. He was down here in July, 1917.

Q. In July, 1917?

A. Yes, sir. Q. He didn't do any engineering for us here the last year— in 1919?

A. Here at Houston?

Q. Here at Houston, in the year 1919. A. Here at Houston,-no, he did not.

Q. Now, for the years 1918 and 1918 just what have you done to earn the 41/2 per cent other than to send some of these circulars

down here?

A. Well, we have had, of course, work under way all the timethis organization of traffic engineers is working constantly on matters that are hoped to be used by the Associated Companies, including the Southwestern Company.

Q. Have you ever-

A. (Interrupting.) Every portion of the work is under study and investigation all the time. That's what the force is maintained for.

Q. You say you have operated some telephone plants?
A. Have I been in the field myself? Yes, I was eight years with two Associated Companies.

Q. What were your duties there?

A. I was in traffic work during all that period.

Q. What were your duties? "Traffic work" is a very latitudinous

A. Well, I started out in 1902 doing that class of work four years and was connected with the Central District Company of Pittsburgh and had the field traffic work.

Q. What were some of your duties?

A. Well, I visited various exchanges and looked into the conditions I found there and made suggestions. I had charge of a district for two years.

Q. Did you ever get right down and do the work?

A. Yes, studied the switchboard and operated a board.

Q. How long did you do that work?

A. I never did that continuously for a period, but did it enough to familiarize myself with it.

Q. Did it on a tour of inspection,-just headed in and out?

A. Yes, I never was an operator.

Q. You never got down and rustled with the proposition of trying to make a telephone company pay, or anything of that kind?

A. On the financial side of it?

Q. Yes.

- A. No. I never had any connection with the financial operation of a company, as far as that is concerned, but as 619 traffic superintendent was responsible for traffic expense.
- Q. Now, take your machine and you perform such peculiar duties, and others in the organization perform their duties, and that's the contact you have had with the telephone business?

A. No, I think it's a little broader than that.

Q. That's pretty broad, I think, but to see if we can get down somewhere near where the work was going on, instead of taking a birds'-eve view of it.

A. No, for eight years I was right in an operating company, and had the raily routine that goes with the handling of the traffic

department.

Q. What did you do there? Now, just give us a day's work, or

kinds of work,—the details of it.

A. Well, take the period when I was District Traffic Chief at New Castle, Pennsylvania: There I was responsible for the service in that city and perhaps twenty-five smaller exchanges in that district. I had reporting to me the chief operators of those exchanges, and they of course, were responsible for the operating forces and the giving of the service.

Q. Received the reports is what you mean, and kind-a tabulated those things, and kept a general outlook upon the proposition?

- A. No, they were questions of skill, and principally involved the services of the number of operators required; matters of payroll changes, questions of moving people from one town to 620 another; questions of transferring the individuals to the places where needed in the local exchange; the question of the expenses for running that Department, and matters of service investigations and complaints, see that the proper standard of operating practices were followed,—the regular routine work that any District Traffic Chief has.
- Mr. J. D. Frank: The most practical traffic experience a man can have?

A. Why, there is nothing closer than the daily routine. for four years after that I was Traffic Superintendent for a company that covered three states,-Southwestern Minnesota, North Dakota and South Dakota. The Company had exchanges in all the different cities, and the same problems were repreated on a larger scale.

Q. You never had any money invested in a telephone company that you were afraid you might lose?

A. Nothing more than ten or twenty shares of stock at one time or

another.

621

Q. You were never pressed to the necessity of getting down to figure if you could get along with seven or eight girls when you had fifteen?

A. Yes, that comes up with every traffic man.

Q. That comes up to you in a swivel chair, by looking over tabulations and seeing, on paper, how it compares with last year and how this point compared to that point, and drawing a lot of mathematical calculations from these different reports,—that's the

way you handle them, largely?

Mr. D. A. Frank: A sort of "rubber-stamp" man—is that your idea?

Mr. Howard: Yes.

A. Why, that's not a fair picture of a running a traffic Department. You need all of those things enumerated necessarily to go over all the reports carefully so as to analyze the situation, but then something has to be done about it, after you see what the conclusions are, and that rubber stamp doesn't do.

Q. You can't do all that with a rubber stamp. Where do you keep these things here in New York, Mr. Estabrook—have you got

a storehouse there?

A. What are they, please?

Q. Local book accounts; how many of these have you got on hand in New York?

A. I could not tell you.

Q. Four or five or six or seven, eight, or ten thousand?

A. Oh, we have very accurate information as to the amount of those called for by the Associated Companies, and the stock is kept replenished.

Q. You have got a warehouse to keep these stock circulars in?
 A. Yes, a stock is kept on hand and is replenished as it becomes extinct.

Mr. D. A. Frank: He asked you if you had a warehouse.
A. I replied that we had a stock of these. Now, these circulars are handled under two different bases; a certain part of them are carried in stock by the Western Electric Company and are requisitioned from their stock.

(By Mr. Howard:)

Q. The Western Electric Company has a warehouse, and the

American Tel. & Tel. Company have a warehouse?

A. They have a stock of these circulars. I have never seen the place where they keep them. Now, other supplies of these circulars are kept in our own department, in a stock room, I suppose, somewhere in the building. I haven't even seen the stock room in our own Department.

Q. A man may have been in New York and not have seen this building of yours?

A. Well, I have seen the Western Electric Building.

Q. Well, getting right down to this, this is stock stuff, isn't it? You get them out by the hundred thousand and have some shipping clerks or other men that mail them out periodically?

A. They are requisitioned by the Associated Companies and sent

out as they call for them.

Mr. D. A. Frank: What difference does it make as to how many they have?

Mr. Howard: Simply this: You bring these things here and set them up as figured out carefully, while they are nothing but a mere accumulation of years that go by, such as any man naturally accumulates in his business.

Mr. D. A. Frank: They just happen, do they?

Mr. Howard: Just happen, as any other concern's records growup.

Mr. D. A. Frank: You haven't read any of them, have you?

Mr. Howard: No, and I never will.

(By Mr. Howard:)

Q. But they are stock propositions?

A. They are printed and carried in stock.

Q. What particular ones of these things that you brought here

have you worked on, Mr. Estabrook?

A. Well, I have worked on those that you have right there, that you were just referring to, in fact, I have worked, I guess, on most of them—I am trying to think of any exception. They are constantly being revised and new editions being sent out.

Q. When was the basis of these things formed—have you any

idea about that—when the first edition was published?

A. Well, on the Traffic Circulars, those you just referred to—the circulars on that subject—dealing with the book accounts—the earliest circular on that subject was sent out in about 1903.

Now, there have been twelve or fourteen of that order of circulars sent out on that subject at various times, and the reason why new ones are sent is that changes are constantly being made in the—different changes are being made in the methods. We are constantly making studies, and I suppose have sent engineers to different cities, maybe forty or fifty cities—sometimes a man stays there a few days, a few weeks, and sometimes a great many months investigating some subject, getting some new data or information, and that is put in one of these circulars. That circular on the book accounts and has a score of studies back of it.

Q. As I get this proposition, all these local concerns are largely managed by the American Telephone & Telegraph Company, and the local management goes by circulars and goes by orders from the American Telephone and Telegraph Company on the management of the business—in other words, they are manages from dustances

instead of locally, under the ingenuity of the local men?

A. I don't think that's true at all.

Q. Well, this seems to be their pupil, and they get these circulars?

A. These circulars are sent out to them as containing the best information and advice that we have to give. Now, they follow that, or not, as they choose; there is no compulsion, and if they disagree on some detail, or disagree on a general principle, 625

they are very apt to follow their own advice or bring the matter up and we will investigate the matter again.

Q. The thing amounts to nothing except a kind of a periodical, just like a telephone journal would amount to-some bright young fellow gets out of college, has an idea, and it is sent to the local concern, they read it if they want to adopt it and if they don't want to they do not; that's what these circulars amount to?

A. No.

Q. Tell us what they do do;—they are not authority—they don't mean anything except a conglomeration of suggestions of a good

many engineers working upon a proposition?

A. They are the result of the study of some person who has specialized on a subject, or a number of them, and who has the time and the facilities and the information to make a very careful studythe results are sent out to the Associated Companies and the Associated Company considers it and in nine times out of ten, or more than that, finds that it looks reasonable, looks like good advice, and adopts it.

Q. Just what have the people in this community gotten in 1919 and 1918 for something like \$50,000.00—is that it—about \$40,-000.00, I think it is—forty-odd thousand dollars, when you get down to all of these experts and engineers—the work you are doing up in New York, and tried to apply it to absorb this fort-odd thousand

dollars a year, the sum total is that some pamphlets are shipped out giving what somebody thinks are very good sug-626 gestions upon how to manage a telephone plant? Is there

anything else they for that?

A. Yes, a great many things. You-

Q. (Interrupting.) What did we get in 1919? Just let's get down to recent years and let's see what we got in the year just closing.

Mr. D. A. Frank: Do you want him to testify as to other Departments?

Mr. Howard: I want him to tell us what we got for this \$40,-000.00. So far we have gotten these pamphlets.

Mr. D. A. Frank: The record is full of it, - you don't read it.

(By Mr. Howard:)

Q. I want you to get down and tell us what we are paying for. As I see it, you say you sent out these pemphlets for these local men to peruse or adopt, as they see fit,-that you have furnished certain engineering advice to the manufacturers before this equipment that the people here buy is built, and that in 1917 you sent a man down here. Now, aside from your induction coils and receivers and transmitters, what did we get?

Mr. J. D. Frank: Go ahead and tell him, Mr. Estabrook.

627 (By Mr. Howard:)

Q. Just tell us, aside from those things.

A. If I may, in starting out mention the fact,—of course all the telephone instruments used are provided by the American Company. Now, I will refer also to the fact that they are local service, connecting service—

Q. (Interrupting.) What local service was furnished these peo-

ple down here in 1919?

A. I want to mention the fact that there are these classes of service.

Q. What are we paying for in 1919,—the forty-odd thousand dol-

lars in the way of local service in 1919?

A. I cannot be specific on that thing. I want to refer to these classes.

Q. You have told us, in a pretty general way, how beneficial it has been to this company, and you are probably sincere in it, but not I want you to analyze it, and want to know what we are paying for.

Mr. D. A. Frank: Let him finish the answer and then cross examine him on it.

(By Mr. Howard:)

Q. Al- right.

A. Now, to answer that correctly I would have to go over the files, confining myself purely to the traffic enginerring service, assuming that I don't know anything about this other service, I would have to go over the files of the engineering department and find out, for instance, what matters had been referred to us from the

Southwestern system that apply to this city in which we have 628 given consulting advice, and I would have to have information as to the visits and trips and conferences between the American Engineers and the engineers of the Southwestern system because many of the things will be covered in these conferences and by that correspondence. I know that in New York we are working all the time upon the various questions that I touched on before in the handling of the forces and the development of the property, the improvement of the operating methods. We are doing lots of work that will be come serviceable, some of it in the future and some right at the present time by the use of circulars that are out now and besides those which you have seen there are some in New York and others in the hands of people at St. Louis. Work is being done constantly by us for the Southwestern Company.

Q. Thomas Edison is working some himself up there in that part of the country doing some experimental work. Experimental

work is going on all over this country of ours in all industries, is there not, Mr. Estabrook?

A. I suppose so.

Q. As far as I can see yet we have formed just as much connection with Thomas Edison as we have with the American Tel. & Tel. Company. I don't doubt your research. You are an energetic lot of gentlemen in your studies, and know your business, but what I am interested in is to know where you have applied any of that efficiency and energy to this local exchange; that's what we are paying for.

A. Because on account of the way in which the South-629 western system is organized it is largely taken care of in

Dallas or St. Louis.

Q. What conferences—you referred to that, and we are getting down a little bit close. You referred to conferences between the engineers locally here and your staff of engineers. Now tell us what conferences you had in 1919,—who they were.

A. Well, the last-in fact the only one I remember, is one we

had in the last month in St. Louis.

Q. Was that about this rate hearing?

A. No, not at all. My superior officer, Mr Watterson, and I were asked to come out by Mr. Pennell to attend a traffic conference in St. Louis. At that traffic conference we had the traffic superintendent and traffic engineers from Texas up at St. Louis at a two or three day conference and all kinds of traffic problems were taken up.

Q. Did we have any representative there?

A. From Houston?

Q. Yes,-that's what we are interested in.

A. I do not know that any man from the Houston district was up

there, but the superior officers of that man were there.

Q. Lets see,—we have gotten that much; you had a conference of some superiors at a distance, not directly attended by anyone from Houston, in which you thought you would get together and better traffic conditions. Now, what betterment resulted from that conference?

A. Well, that's only a month ago and the result of that work won't be evidence- for some time.

Q. What did you install,—what did you suggest?

Mr. D. A. Frank: Mr. Howard, if you are actually looking for that engineering data I will state for your information that the chief engineer of the Southwestern system is on the Sunshine Special and will be on the stand tomorrow and you can cross examine him to your heart's content for that identical thing and everything else you want.

Mr. Howard: I am going to take your word for it and see what

he knows about it.

Mr. D. A. Frank: This witness doesn't know about local service in the city of Houston. He is a traffic engineer and is here to tell you what he knows about traffic service. Mr. Howard: That's all, Mr. Estabrook. We will take the other witness, then, the man who knows.

A. I could get some more specific information by searching through our files and find out what correspondence we have had.

Redirect examination.

Questions by Mr. J. D. Frank:

Q. Mr. Estabrook, does the American Telegraph & Telephone Company send this information to any other companies other

631 than Associated Companies?

A. Not that I ever heard of. Our circulars are sent only to our own Associated Companies. Of course we may get occasional letters from anybody but we don't do any work that I know of except for the long line companies,—the long line department of the American Telephone & Telegraph Company.

Q. Well, do you know of any place where Associate or other companies could get the service rendered by the American Telephone &

Telegraph Company?

A. I don't think it is possible to get it anywhere else because the

same organization doesn't exist anywhere else.

Q. Counsel has questioned you with reference to inventions and patents and improvements and so forth in the plant. You are not a plant engineer, are you?

A. No; I am not.

Q. You didn't intend to mention and testify about those facts,—the facts about inventions and the distributing system?

A. No; I am interested in those things only as a man using them, not as a plant man constructing and maintaining them, or a man interested in the patent side at all.

Q. Counsel asked you the question — or not you had any money at stake when you were acting as general traffic superintendent and district traffic chief, and so forth. The people you were working for had money invested in those plants, did they not?

A. Of course; they were the officials of the company.

Q. Well, did the officials of the company demand that the property be economically operated as well as efficiently?

A. Absolutely; that was the object.

Q. And if you hadn't operated the plant economically would you have held your job for eight years, and would you have been engaged in that line of work?

A. Probably not.

Q. Is your department the only department that renders services under this license contract?

A. No; there are many other departments of the American Com-

pany that render services.

Q. Counsel made light of these so-called pamphlets sent out, and spoke of them as a "stock supply," and so forth. Do you just go on and print something on a typewriter for a day or two and then send them out?

A. No; the information is required to prepare the pamphlets and tables, and all the engineering information in the pamphlets is obtained by sending men around to the different cities to study the conditions, the equipment or method, whatever it is, right in the field and they remain there for many weeks. or months in some cases, making these studies.

Q. And the information set out in these circulars is the result of months and years of experiment and research work of the various departments of the American Telephone and Telegraph Company?

A. That is right.

Q. With reference to that conference held in St. Louis counsel asked you if the city of Houston was represented. The fact of the matter is, is it not, that the general traffic superintendent of the State of Texas and other traffic officials of the Southwestern Telegraph and

Telephone Company were present at that conference?

633 A. That is right.

Mr. Howard: We don't deny that long distance operatives were present.

Q. So that general traffic superintendents, and traffic engineers, have supervision over this Houston exchange?

A. They do.

Q. And are rendering service to this local exchange all the time in their official positions?

A. They must be.

Mr. J. D. Frank: That's all.

Recross-examination.

Questions by Mr. Howard:

Q. Mr. Estabrook, referring again to the pamphlets, they are not copyrighted?

A. Yes; I think you will find on that pamphlet-most of them

are,—almost invariably.

Mr. Howard: That's all, Mr. Estabrook.

W. O. Pennell, a witness for the plaintiff, after being duly sworn, testified as follows, to-wit:

Direct examination.

(Questions by Mr. Duls:)

My name is W. O. Pennell, and I live in Webster Groves, a

suburb of St. Louis.

My profession is that of an engineer, Chief Engineer of the Southwestern Bel- Telephone System; that's the System which operates the Bell telephone properties in the States of Texas, Oklahoma, Missouri, Kansas, Arkansas and a portion of Illinois contiguous to St. Louis. I am Chief Engineer, and my profession is that of a tele-

phone engineer. This Southwestern Company which operates here in Houston is a constituent part of the Southwestern Bell System.

I graduated from the Massachusetts Institute of Technology in the year 1896,—got a degree in the course of electrical engineering. For a year and a half after that I taught engineering and mathematics in La Fayette College in Pennsylvania. I then went with the Bell Telephone Company of Pennsylvania, and was with them about five years as an Assistant Engineer; I had charge of the building equipment, and had considerable to do with the outside plant work. I then was transferred to the American Telephone & Telegraph

Company, and was with that Company for about a year. I was traveling most of the time. My headquarters were in Boston, I was in Detroit, Milwaukee and Minneapolis and my work was generally with the outside plant. In 1903 I became the Chief Engineer of the Missouri & Kansas Telephone Company, and that is the Company that operated at that time in Oklahoma, Kansas and western Missouri. I held that position until 1912, when the Southwestern Bell System was formed and I became the building and Equipment Engineer of the Southwestern Bell Telephone System, and in a few years, the Chief Engineer, which position I have held until this time. I suppose that during this experience I have had charge, from an engineering point of view, active charge, of about \$75,000,000.00 worth of telephone plant. I am now the Chief Engineer for the Southwestern System.

I am familiar with the payment made by the Southwestern Telephone & Telegraph Company to the American Telephone & Telegraph Company for instruments, rentals and the services of the

American Company.

The total amount of the payment from the Houston exchange to the American Company, for the year ending October 31st, 1919, was \$42,791.92,—that was for the year ending October 31st, 1919. This payment is figured as 4½ per cent of certain gross revenues; the revenues which are included in figuring these payments are those known as Interstate Commerce Commission Accounts,—as Account 500; Subscribers' Station Revenue; Account 501,—

636 Public Pay Station Revenue; Account 504, Private Exchange Lines; Account 510,—Message Tolls; and from this total is deducted Account 304,—Uncollectable Operating Revenues. The payment is figured as 4½% of the sum of all those revenues. To a large extent that represents the revenue which the Southwestern Company receives here in Houston from its exchange service and also its toll revenue. There are quite a number of accounts which are not included, but I imagine that these accounts I have enumerated are, perhaps, 95% of the exchange revenue from the Houston exchange.

Q. What per cent of this payment of the value of the plant here in Houston is represented by reproduction cost new, less the de-

preciation?

A. This payment, that we call the $4\frac{1}{2}\%$ payment, figures right about 66/100ths of 1%,—a little over $\frac{1}{2}$ of 1% of the value of the plant in Houston, as calculated by Mr. Hoag in his testimony.

The $4\frac{1}{2}\%$ payment is not a dividend of $4\frac{1}{2}\%$,—nothing of the kind. It is merely $4\frac{1}{2}\%$ of certain revenues; the relation is ordinarily known as the $4\frac{1}{2}\%$ relation, and possibly, in the minds of those who are not familiar with it, it may be thought to be a $4\frac{1}{2}\%$ dividend, or $4\frac{1}{2}\%$ return on the property. It is not that. It is $4\frac{1}{2}$ per cent of certain revenues,—of certain gross receipts,—and figures out, in the case of Houston, about $\frac{1}{2}$ of one per cent of the property.

Mr. Howard: That is, the property,—you mean on Mr. Hoag's set-up?

637 A. Yes, sir.

The payment has not always been figured as $4\frac{1}{2}\%$ of certain of the gross revenues that I have testified to. In early days it was an applied sum for stations; of course, whatever basis you take, the percentage would be longer or smaller,—the larger the value it would be smaller,—and the smaller the value it would be larger. It — not be less than $\frac{1}{2}$ of one per cent. It would be over $\frac{1}{2}$ of one per cent. To my mind, it gives one a little clear idea of the magnitude of the payment. That is all I had in mind in mentioning it that way.

Mr. Powell: About & of one per cent on the Hoag inventory? Mr.

Pennell, you were going to tell us what the payment was.

A. Yes, sir, I got off on a tangent. The payment used to be an applied sum per station, and it was this amount per station—this amount per station varied with the revenue from the particular station. At one time the payment was as high as \$14.00 a station. It was reduced from time to time, and the last reduction was made in 1902, when the method of figuring the payment was changed to the 4½% basis and it has remained at that basis ever since. My relation—my experience with this relation goes back over twenty years in the service, and the services which have been obtained under

it have, in my opinion, been progressively increasing in value

638 and this payment has been decreasing in amount.

Q. Mr. Pennell, you don't know just why that was changed

to 41/2 % do you?

A. Well, I imagine that one reason was, it was a good deal easier to keep track of it. When the payments were made on the basis of a certain amount per station,—"A" dollars for a station which had a certain revenue,—"B" dollars for another revenue; and it was rather complicated book-keeping to keep track of it, and it was a much simpler method of book-keeping for a percentage basis. I don't know that that was the reason, but I would imagine that that was one of the chief reasons. You understand that when this change was made to $4\frac{1}{2}\%$ it involved at that time a considerable reduction in the payment; it wasn't an increase, nor it wasn't the same payment, but was a reduction, but the basis of calculating the payment was changed too.

The payment is made under, or grew out of what is known as the License Contract. I have an exhibit covering this License Contract between the American Company and the Southwestern Company.

Mr. Duls: We offer that as Plaintiffe Exhibit No. 146.

(The Contract was thereupon received in evidence, marked "Plaintiff's Exhibit No. 146, Witness Pennell" and is filed herewith.)

639 (By Mr. Duls:)

Q. When was this contract first entered into, -what year?

A. Why I believe the earliest date in the contract is '85,-I think it is.

Q. My copy is '89,—July 1889.

Yes, sir, I see that's right; that is the first date.

Q. At that time did the American Company own a majority of the stock in the Southwestern Company?

A. I understand that at that time they owned,—I think it was something like 30% of the stock,-not a majority, a minority.

Q. Now, Mr. Pennell, you have testified that you received certain services for this payment. Please describe briefly what those services are.

A. Yes. It might be well just to point out when the contract was entered into — this Company,—the American Telephone & Telegraph Company, did not control this Company. The payments The payments since that time have been decreased progressively, and, in my opinion, the benefits from the contracts have been progressively increased,-that is, the contract entered into at arms length-

Q. (Interrupting.) At the time the contract was made, did the American Company own any stock at all in the Southwestern Com-

pany?

A. I don't know, my impression is that they owned 30%. I

think that is in evidence somewhere in the testimony.

Q. Al- right. Now, go ahead and tell us briefly what services you received, and by "you" I mean the Southwestern Telegraph & Tele-

phone Company. phone Company.

A. The so-called 4½% services can be briefly stated as fol-640 lows: First: The instrument service, which consists of furnishing the transmitters, the receivers, the induction coils and certain working elements of the telephone repeater. Second: The services of the research and development and engineering department, which includes the use of the result of all research and development work; the use and protection of patents, specific engineering services and general engineering services relating to plants, traffic and com-mercial matters. Third: The services of the legal department. I think the lawyers can tell you more about that than I can, but they include expert legal advice, the issuance of daily bulletins of commission decisions, or court cases, compilation of statutes which relate to the telephone industry, and the distribution of other statistics and information which will be of value to the lawyers. that's fourth; Fifth: The services of the Accounting Department, that includes accounting standardization, periodic auditing of the Southwestern's books, expert advice on accounting methods of all sorts, and statistical advice; and next, the services of the Executive and Financial Departments, including advice upon administrative and executive problems, the loaning of money at ordinary rates of interest, and the assistance in the sale of securities, and in a general way such financial assistance as the American Company as its credit and finances will allow it to give the Southwestern 641 Company.

Q. That described, in a general way, the services which the Southwestern Company receives under this payment to the American Com-

pany?

A. Yes, sir.
Q. Does the payment cover any particular service, or cover all of them?

A. It is in payment for all of those services.

Q. Now, let's take them up briefly in detail. Please describe

what you mean by "instrument service."

A. I mean by "instrument service" the furnishing of the transmitter, the receiver and the induction coil. You are all, I guess, familiar with what those instruments are. I think Mr. Rhodes showed them, but I had a transmitter and receiver cut in two so that you can see what they look like inside. Perhaps Mr. Howard has not seen that, and perhaps would like to see it. These are the two instruments which are visible, and associated with them and necessary to make them work properly is what we call the induction It's this coil here (indicating) and this other portion is the conductor.

Q. I don't think that's been shown.

A. The coil, Mr. Duls, the metal part is the condenser which is attached to it,—that's the induction coil, (indicating).

Q. These three instruments which you have just shown us here

may be designated as the voice of the telephone?

A. Yes, sir, they are the parts which really you talk into 642 and you hear from, and which are the voice, or part of the system, anything you want to call it. The induction coil is fully enclosed in the box and isn't vivible by an external inspection.

Q. Does the Southwestern Company have any money invested in

these transmitters, receivers and induction coils in Houston?

A. No, sir. These are furnished by the American Telephone and Telegraph Company and we have no money invested in them with

Q. (Interrupting.) Do you know who the owner of these three

parts of the telephone is?

A. The owner is the American Telephone & Telegraph Company. Q. If the American Company owns them, then does it reduce

the investment of the Southwestern Company by just that much?

A. Yes, certainly, I figured out—I figured that out roughly in Houston, and figuring the cost of these instruments at the market value, the cost of these instruments would be something like \$147,-000.00; in other words, answering your question, if we were to own these instruments at present day prices, our plant investment would be something like \$147,000.00 more than it is now.

Q. Mr. Pennell, the American Company furnishes these instruments. Now what other service does it furnish in connection with

them; who repairs them when they get out of order?

22 - 219

A. If the instruments become defective, or get out of order, or are broken, if we return them to the warehouse of the American Company, which in this case is in Houston, they will either repair them at their expense, or replace them with a perfect set of instruments.

Q. If the American Company did not repair them, why the expense of repairing them would be on the Southwestern Company?

The Southwestern Company would have to have them?

A. Yes, certainly. If we needed the instruments we would have to repair them ourselves.

Q. Have there been any improvements in the types of receivers,

transmitters and induction coils that you know of?

A. The instruments are being improved all the time; new types are being brought out, which are more efficient and better than the

oil types.

Q. Mr. Rhodes went into that in considerable detail, and showed us how the types developed from the earliest to the standard type in effect today and we won't go into that further. Under the license arrangement does the American Company obligate itself to replace obsolete types of instruments?

A. Yes, if an instrument becomes obsolete, we have the privilege under this arrangement of returning it to the warehouse and they will replace it with the most modern types. Now, that is a very considerable advantage to us. It has these two advantages: First,

it gives us an instrument which will talk better. When I say "more efficient" I don't mean in the date, but a more efficient instrument. It not only gives us better transmission, but on those lines where the transmission is already satisfactory on account of the greater efficiency of the instrument, it enables us to use less copper in the line; in other words, it enables us without impairing the transmission in any way, to build the plant at a smaller cost, and so there are two advantages in the improvement of the transmitter and receiver, that is, the first is the improvement where we need it, and second it makes for considerable less cost of plant, because we use less copper—less conducting material in the lines.

Q. Isn't there also an advantage in the fact that as these parts become obsolete and have to be replaced, if they were owned by the Southwestern Company, the old types would have to be junked?

A. Yes, there is that advantage, if we owned our own instruments, if we wanted to get the new type, improved types, we would have to take the old types out and in most cases, we would get nothing for it except junk, and the junk would probably hardly pay us the cost of taking them out and we have to pay for the new type of instrument, as well as the obsolete. I would not say they would be as free to take out the old instruments as we are under this arrangement; they are in there and will talk as well as this instrument, and

I believe that is one of the reasons why the American Company has this policy of owning its instruments in order to maintain the heart of the system which furnishes the trans-

mission, at a high grade of efficiency. And---

Q. (Interrupting.) The Associated Companies, in other words, wouldn't be so ready to change the types that they had in use?

A. Undoubtedly not. Because the cost goes into their pocket

books.

Q. Under this Licensee arrangement, the American Company assumes the expense of carrying receivers, transmitters, and induc-

tion coils in stock?

A. They allow us to carry—at least, we can carry, three per cent surplus without any additional stock, that is, three per cent of instruments on the instruments in service. That is as large a stock as we would like to carry and in addition to that they carry in their central warehouses a stock of instruments which is something like around seven or ten per cent, I believe, of the instruments in service of the whole country. It is the idea of the central stock being if there is a large growth and large demand for instruments, or any particular manufacturing difficulties, or material difficulties in making instruments this surplus stock will enable them to have a supply of instruments and meet the demand.

Q. And in case of emergency that also is a considerable ad-

vantage?

A. Yes, of course, if we have an earth-quake, or fire like San Francisco, they always have a surplus available to meet the

646 needs.

Q. Have you prepared an exhibit showing the value of this instrument service in dollars and cents to the Southwestern Company, in the Houston Exchange?

A. Yes, I have.

Mr. Ferrell: That, Mr. Howard, is what you were calling for this morning.

Mr. Howard: I wasn't asking for anything, I was asking the wit-

ness a question.

Mr. Ferrell: We offer this as Plaintiff's exhibit No. 147.

(Thereupon, the statement was received in evidence, marked "Plaintiff's Exhibit No. 147 Witness Pennell" and filed herewith.)

(By Mr. Ferrell:)

Q. Taking this up, Mr. Fennell, tell us what this exhibit shows.

A. This shows that we had, at the time as of which it was made out, which was October 1, 1919, 28,305 transmitters in Houston, and 28,374 receivers, both of these being in use at the subscribers' stations, some in use at the switchboards, or used for testing purposes, and something like 800 of instrunents in stock. The average number of sets—we call a "set" a transmitter and receiver, with its induction coils; the sum of these two divided by two is 28,340.

The total subscribers' stations at that time in Houston were 26,693, or a ratio of sets to stations was 1.06, that is, there were more sets than there were stations, because we used the sets at the switchboards, and so on. The cost of an instrument set, that is the transition of the sets at the switchboards.

that is, the transmitter, receiver and induction coil I have estimated at \$4.45. I have annual charges on this set, including the reserve

for replacements return on investment, repairs, administration and contingencies, at 231/2%, in other words, if we were to own the sets they would cost us, the first set \$1.04, or per station in service, \$1.10. The total payment by us for the year ending October 31st, \$42. 791.92, or the payment per station in service was \$1.65 and I have shown that the cost to us, if we were to own the instrument ourselves, or the instrument service is \$1.10, leaving a balance of 55¢, or about .046¢ per station, per month as the cost to us of the other service other than the instrument service, or in dollars and cents out of the total payment for that year of \$42,791.92, \$25,541.00 would be the cost to us of the instrument service, and the balance of \$14,251.00 is what we paid for the other service.

Q. Considerable over half of what you pay then for the instru-

ment service?

A. Yes. Q. The total payment being in round figures, \$42,000.00 of which the instrument service would cost \$28,000.00?

A. Yes, that's the idea.

648 Mr. D. A. Frank: A little over two thirds would pay for the instrument service \$28,541.00 compared with \$14,251.00. A. Yes, practically two-thirds.

(By Mr. Dule:)

Q. Mr. Pennell, why have you figured in here anything for an-

nual charges on the instruments?

A. Well, I was trying to find out what it would cost us if we owned the instrument,-if we were to own the instruments, and if we owned the instruments we would have to maintain them, and have to have a return of them, and have to lay aside something for depreciation and I have estimated as nearly as I can what those charges would be.

Q. Exactly as you figure the annual charges on any other por-

tion of the company's investment here in Houston?

A. Yes, sir.

The Master: You figure the depreciation charge on instruments of that character higher than ordinary, don't you, in other words, on account of the fact that the apparatus depreciates more rapidly?

A. It does. Yes, Sir; Perhaps one reason is this; that the turnover is very rapid, that is, the instrument put in at the stations, stay in on an average less than a year and come out and are then carried back to the office, and that handling submits them to a good deal of damage, and also, they are part of the instrument which is used and they are subject to considerable damage. You see, with a reserve for replacements of eleven per cent, that is, about a nine

years' life to the instrument, and, I doubt, considering, not 649 only wear and tear but obsoleteness which would take place

if we owned the instruments and which takes place in any event, I don't believe a nine year lift is too short a life, if anything, it's too long.

(By Mr. Duls:)

Q. I think the Master had in mind that these instruments are rather delicate and the depreciation for that reason would be higher than they conduit?

A. Oh, I see, it is much higher, of course, than underground con-

duit. Now, underground conduit goes in the ground-

Mr. Howard: Obviously higher than permanent parts of our plant.

Mr. Howard: Why should it be? Take up one of those things and show us besides obsolescence what would wear out?

A. One major factor is the obsolescence factor.

Mr. Howard: Aside from the obsolescence, that material looks

to me to be very durable material.

A. The button in here, (indicating) that part is called a button, and the carbon in that gets packed and it won't talk right; if that carbon gets packed the transmitter won't talk properly. You asked me for some of the ways in which these would wear out,-the character of the carbon in this button changes, becomes packed, and the instrument won't talk properly.

Mr. Howard: You have a repair charge charged up for that?

A. No, that would be depreciation,—the chances are when that is

done the whole instrument would be junked.

The chances are that when you dis-assemble this instru-650 ment, rather than go to the expense again of putting it together - that you would have a type of instrument which would be somewhat improved and it wouldn't be worth while. Then you would junk it and use the new instrument. Lightning will get in a line sometimes and burn the instruments out, that happens quite often, or you drop an instrument and break it. I don't know, there are a great many ways in which an instrument can be injured.

(By Mr. Duls:)

Q. Anybody looking at that transmitter and receiver can tell that's a more delicate part of a telephone plant than a conduit, can't they. Mr. Pennell? Are the adjustments, the different materials, in the transmitter there, for example, carefully adjusted?

A. It is sealed up and you are not supposed to adjust it. The men in the field are not supposed to adjust it; they are not skilled

enough to adjust it; they are adjusted in the shops.

Q. What happens to that instrument if it is used roughly and an accident happens to it,-if anybody takes and throws it out of the window, gets mad at the service they are receiving?

A. I couldn't tell you. There are various things that might happen. The chances are it wouldn't talk right after it had been treated that way.

Q. Mr. Pennell, these figures apply specifically to the Houston Exchange?

651 Q. That is, as to the number of instruments which the Southwestern property has to have here in the Houston ex-

change, to render the service?

A. Yes, they were of this date, October 1st, 1919. Since then the exchange has grown and different figures would apply if we were making an exhibit of exactly this date. Of course, the per station figures would be practically the same. I understand that the general staff of the American Company has developed a device known as a telephone repeater which is furnished exclusively to the Bell Company under this license arrangement.

Q. Will you tell us what that device is and what its use is?

A. The telephone repeater is a device which takes an attenuated or a weak telephone current at one end and puts additional energy into the current so that it comes out at the other end with more energy, but with exactly the same wave form of putting it in more every day language, it is a device which takes a whisper at one end and turns it out at the other end a full grown voice, but yet the voice of the speaker.

Q. Are there any repeaters here in Houston?

A. Yes, there are two repeaters in Houston. This device is a wonderful sensitive device and you can use it over and over again in tandem. And I understand they have taken an almost infinitesimal current which is on a telephone line and put it through this device a sufficient number of times until it was of sufficient magnitude to light an incandescent lamp, and yet the shape of the wave, which

represents your voice isn't changed at all.

652 A telegraph repeater has been known and in use for a good many years, but a telephone repeater has been unobtainable until the last three or four years. Mr. Glidden, about twenty years ago, was President of the Southwestern Company, President of the Erie System, and he recognizes the demand for a repeater and he offered a reward of a million dollars to the person who developed a satisfactory repeater, but no one worked it out, and the reward went by default, and it was only in the last three or four years, I think it was about five years ago, that the telephone repeater was developed by the engineers of the Research Department and became available to the Companies in the field. I have got a picture of what a repeater, the apparatus in a repeater, looks like. You may like to see it. Mr. Howard might like to see it. are some insulations up stairs. Now, the real duds of the apparatus—the real heart of the apparatus, is this bulb here. This is what does the work. It is a highly—it is a high vacuum inside here, certain models arranged in a certain way, so that this in connection with all these relays constitute the repeater. This corresponds to the transmitter you might say.

Mr. Duls: I want to offer this as Plaintiff's Exhibit No. 148.

(The picture thereupon was received in evidence, marked "Plaintiff's Exhibit No. 148, Witness Pennell" and is filed herewith.)

653 (By Mr. Duls:)

Q. Who owns the bulb and socket?

A. There is a socket this fits into. I haven't got a socket. This is owned by the American Telephone & Telegraph Company; they give us the use of it just the same as they give us the use of the transmitter, the receiver and induction coil. And in case it wears out, it has a life something comparable to an incandescent lamp, something like two hundred hours' service, and you can then return these to the warehouse just the same as we do the transmitter and receiver, and they furnish us a perfect one.

Q. Do you know what the cost of that bulb is?

A. I don't know,—I haven't any idea. The greatest part of the cost must be in the development cost and patent. It looks very simple, but represents an enormous amount of study and development, in fact, I know personally that for twenty years several engineers have been working continuously trying to get a telephone repeater. When I first entered the telephone business, engineers were working on it and those engineers worked continuously on iy, and it was only in the last five years that they succeeded in making this perfected device. There is necessity for very high voltage in the bulb and I think the voltage is higher than in the electric light. I don't know what the metal is. The composition of some of these grids and plates is kept a great secret, I think.

Q. Do you consider the use of these repeaters to be of any value

to the telephone system here in Houston?

A. I think they are of very great value.

Q. In what way?

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A. I can perhaps illustrate this by this map that I have prepared.

Mr. Duls: He offers this as Plaintiff's Exhibit No. 149.

(The map was thereupon received in evidence, marked "Plaintiff's Exhibit No. 149, Witness Pennell" and is filed herewith.)

A. You will locate Houston on the map. The area shown in pink was the area within which you could get what you might call Commercial transmission from Houston prior to the advent of the telephone repeater. That is the area in which you can get a perfectly good connection, that is probably not good to the Border, but generally that represents the area in which you could get, as I say, what you might call commercial transmission prior to the advent of the repeaters. Now, in the yellow is shown the area that you can get commercial transmission with the repeater. You see it takes in all of the United States except the piney woods of Maine, and also takes in a little of Canada. Now, the use of this repeater has extended the range of transmission from every telephone in Houston that amount, and it seems to me that that is of great value to the telephone subscribers, even if they don't use the telephone; they

want to some day use a telephone badly, maybe,—there is that potential possibility from every telephone. I had an illustration the other day. I got a wire that my mother was very sick, and I called for the first time, I happened to make this call to New Hampshire, where she lived, and I would have given most anything for that connection—from Saint Louis,—and it talked beautifully. I got discouraged—discouraged news and it was interesting to note that the violets at that time were blooming in Saint Louis and the doctor had to go to his patient on snow shoes in New Hampshire. It brought home to me the distance I was talking. It is also an asset to the City of Houston to be put on the telephone map. Houston can be reached from any point in the United States. I know what this—

Q. (Interrupting.) Pretty soon the people of Houston will be

able to talk to Havana, Cuba?

A. Yes, they are stringing a cable now from Key West to Cuba, and that is connecting with the telephone system in Cuba.

Q. Who is dong that?

A. The American Telephone & Telegraph Company are stringing the cable,—it is a wonderful piece of engineering because the cable has to be laid under the ocean and has been laid at intervals so that it will carry speech and when that is done why, we can talk from Houston to Cuba as well as you can go talk to New York, or any other distant place. One very interesting feature is that one very often talks over long distance better than he talks closer to home. I have

often noticed that in talking to New York. I talk to New 656 York quite often and I know sometimes I think the man is talking close to me, and I sometimes think that he is in St. Louis, because it is so distinct. The reason why these long distance calls are clear is because you get a lot of these (referring to the repeaters) in them.

Mr. D. A. Frank: What do you mean by "these"?

A. These telephone repeaters. This repeater, you understand, is a patented article and it is available only to Associated Bell Companies, none but Bell Companies can obtain the use of this repeater.

(By Mr. Duls:)

Q. And they obtain the use of the repeater under this four and one-half per cent payment?

A. Yes, sir.

Q. The Southwestern Company receives the use of it?

A. Yes, sir.

Q. Mr. Rhodes has shown us the organization of the Development and Research Department maintained by the American Company for the purpose of assisting the Southwestern and other Bell Companies. Can you mention some of the specific work which this Research Department has done for the Southwestern Company?

A. Yes, sir,—this Research and Engineering Department is a large Department; there are something like five hundred persons in it,—a great number of which are Engineers,—scientists and investigators of the very highest type. They are work-

ing all the time on problems of research and development for the benefit of the Associated Companies. The Associated Companies

cannot do this work. The Southwestern Company cannot afford to have a Department as large and elaborate as this Department. can have a research department, but it would, of necessity, be s small one; and likewise, with all of the Associated Companies, they would work, more or less, at cross purposes,-they would duplicate the work to some extent. No company would be in a position to avail itself of the experience of all of the others, so as a result all of the Associated Companies maintain this Cental Department of Development and Research, which is working for them,-developing new devices in the telephone field, and the Associated Companies get the use of those devices without any other payments than the four and one-half percent payments. Now, the history of what this Department has done is largely the history of the Development of the Telephone in this country. I do not mean to say that they have made all of the improvements,—they haven't. Improvements, a number of them-some of great value, have been developed outside of it, but taking it all the way through, they have developed the greater number of the big things,-a greater number of the big things in the telephone business than anyone else.

Q. Do these improvements and developments affect the users of

the telephone here in Houston?

A. Yes, sir, they affect us in a great many ways. I will outline some of the work that has been done. Perhaps,—well, to start with, some of the old work—it is ancient history and perhaps many of you have forgotten it. The only kind of wire that will carry speech for any considerable distance is copper wire. When copper wire was first used, it did not have the tensile strength to stand upon the telephone poles,—the only kind of wire was soft-drawn copper wire. The Associated Companies were up against the problem and the Engineers of this Research Department went into the drawing mills, rolling mills, and developed a hard-drawn copper wire which is used all over the country, and it is used in Houston today. Without that development, the long-distance telephone would be impossible.

Q. Is this hard-drawn copper wire used in the exchange service

here in Houston?

A. Yes, sir.

Q. Al- right. What other developments?

A. That, of course, was developed years ago. I don't think it was ever patented, and if it was, the patent has long ago expired. The common battery was developed,—the common battery telephone system was developed by this Research Department and given to the Bell Companies; before this, the magneto was the only one know. The development of the common battery system was a big advantage, a big advantage in this,—two or three things; first,—it automatically signals the central office, which enables the operator

to supervice each connection more rapidly and she can handle a great many more calls than with the magneto system. It is a cheaper system and the subscriber gets better service and you don't have to maintain batteries at the instruments which cheapens the maintenance. That development of the common battery system was

the development of this Engineering staff, and before they worked it out there was no such system known.

The Master: Why don't you put that scheme in in little towns,

Mr. Pennell?

A. The reason is this,—it is difficult to draw the line just where this system is economical, probably an exchange with about four or five hundred local subscribers, but in these little towns we have a large percentage of rural lines, country lines, and we can't work this common battery system on those very well, because the lines which go out through the country run through trees and hedges very often and are very often owned by the farmers and are not maintained, and a common battery system will get crossed on the line; in other words, it isn't economical, -costs too much, -and the subscribers, on account of the excessive trouble we have in these small places, it wouldn't be so satisfactory to him unless the telephone company went to other expenses, which would make the rate higher than the rate should be, so that in a small town the most modern way of giving telephone service today is with the magneto system, but that's only in small places. I can remember when New York City was magneto, and I can remember when they began to change I also remember when Philadelphia was magneto and

Another line of work which this Re-660 they changed it over. search Department has been doing has been developing a When the telephone exchanges were first built the telephone cable. circuits were strung in open wires on poles, and one of the things a telephone manager pointed to with pride when you inspected his exchange was his office pole; they would have up in front of the office a pole fifty or sixty feet high which would have ten or twelve cross arms on it, and that was his office pole. There was a limit, though to telephone construction of this sort; you were able to put only a certain number of open wires on a pole, and then it becomes fully loaded,-you can't get any more on it, and so it was necessary to bunch these wires, -some sort of cable; the only cable known at that time was a cable with a rubber insulation, but you can't talk over any distance over a cable with rubber insulation, as at the offices at the other end it sounds muffled,-as the tones get out of the cable if it gets long enough—and you can't hear anything at So the engineers of the Research Department went into the matter of finding an insulation for wires with paper, to get a cable that would talk better for a considerable distance.—and they developed what is known as a dry card paper cable. First, this cable was made in sizes of perhaps one hundred pairs of wires in a cable, and then, as the number of subscribers increased, the need for larger cables became evident and that increased the size of the cable to a maximum of, perhaps, three hundred pairs,

but they could not increase them any larger than that because of the conduits which go under the ground, in which the cables are built, did not have a sufficiently large diameter while the cable itself mught have a larger diameter; but would be hard to handle when you rolled it up, that is, a cable with about three hundred pairs of wires, which was known as 19 gauge wire, and was as big as any cable you could get. Then they developed what we know as a fine-wire cable; they decreased the size of the wire by onehalf, using what we know as 22 gauge wire, and by that means they were able to get a cable which would carry as high as 900 paid in a sheath of the same size. That, of course, lessened the cost of the cable, -- both because it had less copper and had less lead Now, that saving has been very considerable in for each pair. Houston; the cable plant, alone, represents an investment of something like one and one-half million dollars. You can see yourself how, in the same size lead pipe, you could get twice as many wires. All that had to be studied and developed very carefully.

Q. Now, those advantages the Douthwestern Company partici-

pated in?

A. Yes.

Q. And participated in it to the extent of being able to render

better service in the City of Houston?

There is still further development on this cable which is going on and which we will avail ourselves of probably in a short while.

662 They have decreased the size of the wires still more and and are going to use 24 gauge instead of 22. We haven't I don't believe put in any 24 gauge at the plant in Houston, because the development has just been finished, but by the end of the year we will have some of that wire in in Houston and from now on will have a very considerable saving from that source.

Q. How many pairs of 24 gauge cable wire can you get into a

cable?

A. You can get twelve hundred pairs of 24 gauge wire. Now, that is just about out of the hands of the Development Department-Research Department, and they are starting now on developing a 27 gauge wire. That will take, probably, three or four years-and may be if we have another rate case in three or four years, we will talk about 27 gauge wire—which will be available but isn't available now. Now, the development of this cable has not been limited only to the gauge wire, but has included the sheath, the pipe which the wires are put in. The first sheaths we ever obtained were made of pure lead, but pure lead if used will shortly crystal-ize and crack and dampness, moisture, will get into the cable and the cable has to be repaired or taken up. A large part of the cable used by independent companies is pure lead sheath. When we bought the Automatic Exchange in Houston, a good deal-a large amount of the cable which went into the plant had pure lead sheaths. Here is a sample of the sheath taken out of the plant in Houston, showing that it

had crystal-ized. This is the inside of the sheath, where you

663 see these knest.

Q. Is this a part of the Houston Home Telephone Company's cable?

A. Yes, sir.

Q. And if any moisture gets into the cracks in here, the lines won't work?

A. Yes-now, the engineers discovered that an alloy of three per cent tin and ninety per cent lead remedied that trouble, and-

Q. (Interrupting.) What engineers?

A. The engineers of this Development and Research Department of the Bell Company. We used this cable with the alloy in the sheaths, but the price of tin went up twenty-three per cent and that was a very considerable item, and so they looked around to obtain a new substitute, and they found, in making a great many experiments and trying a great many alloys, and putting it on a cableboth cable in ducts and out—that an alloy of one-half per cent antimony and 991/2% lead would answer the purpose of the lead and tin alloy, and so the cable we are getting now and have obtained in Houston, for the last three or four years has had this antimonylead sheath.

Q. That's better and lasts longer?

A. The sheath is just as good as lead and tin and the cable is about 8% cheaper. Now, this development work on cable is going on all the time. These engine-rs are working for us on these problems all the time, and just as soon as they get anything which is of

value, they give it to us and we profit by it. It was interesting to note that just before I left St. Louis I got a letter on 664 cable, which shows how much in detail they are going into

some features of it, and I will just read the letter. There has been quite a lot of trouble in Houston and all along the sea-coast in Texas and Southern California, and along the Gulf Coast generally, from small holes being bored in the sheaths, and a lot of the trouble is caused by an insect or bug and this is a letter which, as I understand—it is short and it will indicate to you somewhat how much in detail they go into the matter.

Q. You mean a sort of boll weevil attacking the cable?

A. Well, I have got the name of the insect. It has a highly technical name. Here is the bug. (Referring to a bug in a bottle.)

Q. What is this, Mr. Pennell?

A. Why, that's the bug that bores the hole in the cable sheath, and this is what the hole looks like after he has bored it. And this is where a bug bored a hole in a twisted-pair wire. The engineers developed this study, and they put a bug in a lead box to make sure that it was the animal that was eating the cable, and it dug its wayit dug its way out. The photographs show that in the corner of the lead box it ate its way out.

Q. Did the Engineers of the General Staff conduct these experiments?

A. They conducted it in connection with the entomologists of the Department of Agriculture. Now, I will just read you this letter,

which will show-it is interesting because it illustrates just 665 how far they have gone into a little detail like that. We have told them about this trouble and sent some samples of lead

sheaths, and this is what they said:

"Several months previous to the receipt of your letter of June 6th, 1918, reporting on cable troubles, due to the boring of the sheaths by beetles, we have started, in co-operation with the Bureau of Entomology, an experimental investigation of the problems connected with this subject. This co-operative work has been carried on in experiment stations at Falls Church, Virginia, and Los Gatos, The experiments have necessarily been restricted to short periods each summer, when the beetles which cause these injuries had emerged from the pupal form, so that rapid progress has not been possible.

"In the testing cage at Falls Church, short lengths of cable were suspended, using all of the common varieties of sheaths and all methods of hanging cable which are currently employed, as well as representative types of previous standard methods. No direct observations of attack on these cables were obtained, but considerable evidence was gathered both at Falls Church and at Los Gatos, indicating that successful boring of the sheath was dependent upon the beetles getting a foothold on the cable hanger, or on some roughened

surface.

That was interested to me, because it showed the beetle had to get a purchase to push down in order to bore the hole, and that's what our people found, that wherever they found these holes, the 666 surface of the sheath was roughened or loose here where the cable rings were. (Continuing reading the letter:)

"In view of these observations, we are now considering several variations on methods of hanging cables which appear to have possi-

bilities of preventing insect attack.

"Observations have also been carried out by exposing sheaths made of pure lead and a variety of lead alloys to attack by the beetles. During the last season a fairly effective method of making these observations was devised. The results of this work have been negative, so far as the discovery of a cable sheath alloy which would be immune to attack is concerned. There are, however, a number of methods of treating the cable sheath surface which still require investigation, and it is planned to cover these during the next season.

"In connection with the study of the cable sheath alloys, we had ten of the twelve samples sent us with your letter, analyzed. other two of the twelve samples were omitted, because the locations as to the locality from which they were taken indicated that they probably came from the same length of cable as other samples.

The ten samples were found to divide as follows:

"Three were antimony alloy sheaths and three were tin alloy The remaining four were of non-alloy type. While it would appear that the proportion of the plain lead sheath samples which showed perforation is greater than the proportion of this type of cable in the plant, you will note that both our past and present standard alloys also appear in the lot. 667

"In connection with this matter, I should be interested to get from you information as to whether this trouble also appeared during the rainy season of 1919, and if so, the number of troubles for each locality, suffering from the attack."

Q. Now, that was a letter written to you, as Chief Engineer of the Southwestern Telegraph and Telephone Company by the Engineers of the General Staff?

A. Yes.

Q. Telling you the results of their research and experimental work on this bug attacking the cable?

A. Yes.

Q. A trouble which you had experienced here in Houston?

A. Yes, sir, and from it you get an illustration of the amount of detail in which they are examining and studying every portion of the telephone plant.

Mr. Duls: We offer this picture: "Head of cable bug, magnified 35 times, to show boring nippers" and photograph of "Observation box made of lead, through which cable bug bored its way";—these as Plaintiff's Exhibit No. 150.

(The photographs were thereupon received in evidence, marked: "Plaintiff's Exhibit No. 150, Witness Pennell" and is filed herewith.)

668 Mr. Duls: And this photograph of "Scobicia Declivis Lec., or Cable Bug, magnified 15 times," and picture of "Scobicia Declivis Lec., or Cable Bug, magnified six times" as Plaintiff's Exhibit No. 151.

(The photographs were thereupon received in evidence, marked: "Plaintiff's Exhibit No. 151, Witness Pennell" and filed herewith.)

(By Mr. Duls:)

Q. Me. Pennell, is this a male or female bug, doing all this boring

and causing all this trouble?

A. A female bug. I understand it is the habit of the female bug to bore in wood and make holes in which to lay her eggs, and this is a female bug and I presume it is boring to lay the eggs, but cuts the sheath of the cable instead of wood.

Q. What percentage of cable trouble here in Houston is caused

by this bug, spproximately?

A. Why, I was looking over Mr. Grauer's record of cable troubles and while there may be some mistakes in the classification of the troubles, it isn't always easy to identify a hole in a cable as being caused by a bug,—but with the classification he has made, which comes under the head: "Holes in Cable Sheaths"—something like between one-fifth and one-sixth are caused by this insect.

Q. Something like twenty per cent?

A. Yes, sir. That's in Houston and Galveston and apparently doesn't get very far away from the Coast and confines itself to the warmer latitudes.

Q. The work of the General Staff of the American Company, in trying to remedy this trouble for you, is an example of one of the services that you receive under this payment to them?

A. Yes, sir. I mentioned it just on account of the interest which attached to it as illustrating into what minute detail their services

went.

Q. Have you any other services in mind, with respect to Engineering Development that has been of benefit to the Houston ex-

change?

A. This Research and Development Corps of Engineers are working all the time on nearly every part of the telephone plant on developments which will be of assistance to us in the field. One line of work which they have worked on continuously—really ever since the business started up,—is the telephone switch boards. I mentioned the fact that they developed the common-battery system; they developes the multiple system, the multiple switch board, whereby each operator has before her the multiple of each subscriber, so that she can make connection with any line in the office. They have made improvements on nearly every peice of apparatus which goes into subscribers' sets. They have developed automatic ringing on the trunk boards, whereby the trunk operator, by inserting the trunk plug in the jack the ringing of the subscribers' station will automatically stop and continue at intervals until the subscriber answers. They have developed new types of line and—

Q. (Interrupting.) All these different things you have men-

tioned are used here in the Houston Exchange?

A. Yes, sir,—everything that I have mentioned is. They have made a very important improvement in the telephone cord,—the cord is flexible and is the contact which the operator uses in making the connection. I just brought that here as an illustration of what the cord was.

(The witness here exhibited a cord.)

You can see, she makes a great many connections in a day, and every time she makes a connection the flexing of that cord must be employed, and the wire inside broke off,—and if that happened, or if it become partly broken, the connection will suffer a good deal. A study was made on that subject by the Development Department, and the old cords had a life of about four months. They developed a new type of tinsel to be used in the cord, so that the life of the cord now has been extended to about two years.

Q. When you say "Development Department"—you mean the

Development Department of the American Company?

A. Yes, sir,—I am talking about this group of engineers that is working on these problems all this time. They have been working a considerable length of time on the development of an automatic switch board; to my knowledge they have been working on the development of the automatic switch board for 15 years, and it has only been recently that the board has been developed to the point where service can be given with it which

would be as good as the manual service, and it has only been recently when the labor costs have increased greatly, that the automatic board could furnish service as cheaply as the manual board, and there has been, until very recently no satisfactory way

of starting an automatic board in an exchange where there is manual equipment and having the two boards work in connection with another. And that is obviously the only way in which we can introduce the automatic system in the larger exchanges, because it is physically impossible to replace all the manual equipment at one time. Now, this Research Department has developed a emthod whereby you can inter-connect the two boards, and the automatic subscriber in the exchange can put in his call for any subscriber in the exchange be he automatic or maula, and he won't know the difference unless he happens to know that such a number if automatic and such a number is manual; in the same way, a manual subscriber can talk with or call any other subscriber in the exchange and he won't know whether he is getting connection in the manual office or automatic office, and this improvement in the automatic boards will be available to us in Houston when we are in a position to require it. It is a problem which will require a great deal of study; the introducing of automatic equipment in Houston or any other large exchange, is one which is going to take years, and will have to be gone into gradually-for a great many reasons,-financial, physical and engineering.

Q. Are there any other services of the General Staff in the En-

gineering Development Work that you want to mention?

A. Yes, sir, there has been—there are a great many other services. I have told you very briefly about the development of the telephone cable. Now, you can talk through a dry core cable at a certain distance very satisfactorily, but beyond that the voice be-

comes muffled and you can't hear at the other end. Servian boy came to this country and became Professor of Physics at Columbia University, and he developed a method of placing impedence coils at intervals on the cables. When these coils are placed on the cables, you can talk through a much longer cable than you can when the coils are not placed on them. That invention was purchased for the benefit of the Southwestern Company and other associated Bell Companies, by this Department of Development and Research, and they took that in its experimental stage and spent quite a lot of time and work on it and it is used in all of the large cities of the country. Those are the cables that you talk over in long distance, and the cables require much less copper than they otherwise would do. There are loading coils in Houston-not very many loading coils in Houston. You don't get very much advantage from this development yet,—Houston is not quite large enough,—the exchange doesn't extend over a very large area-but in a few years, if the city expands, these coils will be of very considerable value to the City of Houston. They are used here now and are beneficial, but not very many of them.

Q. In other words, the Houston Exchange receives the benefits of

the studies made by the General Staff on that subject?

A. Yes, sir, and another development which is a quite recent one,—it may seem like it is trivial, but it is really of considerable importance,—is a new type of carbon which is used as a pro-

tector in subscribers' instruments; every instrument which you have in use outside of the down-town district, where the wires are entirely underground from the office to the instrument, there is a protector, and in these protectors there is carbon for the purpose of taking the lightning discharge, and very often after a storm the line will be in trouble and you will have to go around and replace them; it isn't so much the cost of replacing, but it is a detriment to the service when a line is out. Now, that device has been developed,—it has taken a long time to do it,—that practically eliminates this carbon t-ouble and yet that arrestor is just as efficient as

Q. That arrestor, was developed by the General Staff?

A. Yes, that's just on the market now, that is, we are just getting them in quantities this year, and I presume are beginning to place them in Houston this year. If they aren't, they will be before the end of the year. I mention that just as an illustration of one recent development which the General Staff has made. Now, there are a lot of other things which relate to the whole plant and don't affect the Exchange in Houston, except in so far as its toll connections are concerned.

Q. But all these matters you have been testifying about, hard-drawn copper wire, cable, switch boards, and switch board cords,—the automatic board and the lightning arrestors or current arrestors,—they are all matters—they are all material used here in

Houston?-As distinguished from the materials used on the

674 toll lines?

the other protector.

A. Yes, sir.

Q. And all of them are of direct interest to the service here in Houston?

A. Yes, sir. If you would like, I will illustrate some of these improvements on the toll plant—some of them are rather interesting.

Q. Can you just mention them and give a list of them, Mr. Pen-

nell, without going into them?

A. Yes,—that can be used both on toll lines and on the exchange

lines.

Q. Now, applying this service specifically to the Houston Exchange, have you prepared an exhibit showing the actual savings of the Engineering services, as directly affecting the Houston Exchange?

A. I prepared an exhibit which shows-

Mr. Duls: We offer this as Plaintiff's Exhibit No. 152. 23—219

(The statement was thereupon received in evidence, marked "Plaintiff's Exhibit No. 152, Witness Pennell" and is filed herewith.)

A. I have taken just some of the improvements which we have been able to get on account of this research work and I have figured out what it would cost us to duplicate our plant in Houston if we had not been able to avail ourselves of these improvements. I can explain this exhibit I have taken the amount of cable which I have described as fine-wire cable in Houston. I took the figures from the inventory, and I find out what cabke would cost if we had not been able to use the fine-wire cable,—that is, if fine-wire cable had been replaced by the cable which we formerly used, and I took the difference and in taking the charges on the difference, I find that had we been obliged to use the older type of cable in constructing the plant in Houston, it would cost \$104,000.00 a year more. way, it is obvious that if you can get more wires inside of a cable of a given diameter, you don't need so many ducts in your underground, and figuring the annual saving, duct saving, I get \$17,-300.00.

Q. The saving on the improvement in cables alone is over two times as much as the payment by the Southwestern Company for

the services?

676

A. Yes, sir, and then the saving on account of the development of this new antimony lead sheath, which is, practically speaking, with per cent; we haven't very much of that sheath in the plant at Houston, because it is a recent development, but taking that cable

which we have in the plant and estimating what it would have cost with the former alloy, and taking the annual saving on

that, I get a figure of \$2,200.00. Likewise, I estimated what it would cost to maintain and replace the former type of switchboard cord and the extra cost of maintaining those cords in the plant would be \$14,100.00; so that this estimate of what it would have cost us, had we not been able to avail ourselves of these developments, just on these four items, amounts to \$138,100.00.

Q. Over three times as much as we pay for the service?

A. Yes, sir,—something like ten times as great as the payments for all the other service, other than the instruments service.

Q. Does the Southwestern Telegraph & Telephone Company use any device made under patents owned by the American Company?

A. The American Company has something like five thousand active patents. These patents cover devices which go to the—these patents cover devices which have not expired and are active. These patents cover devices we are using and devices which we don't use, but which we may use,—that is, the product, the field for development in the future, as well as protecting us on the devices which we do use. There are a great many articles which we use in Houston which are made under patents that are owned by the American Company.

Q. Does the American Company, under this Licensee arrangement, permit the use of these patents without further payment on

the part of the Southwestern Company?

A. Yes, sir,—one of the privileges of this arrangement is that we have the full use and protection,—patent protection. If there should be any lawsuit, they would defend it. I think one of the witnesses, Mr. Kelsey, mentioned the fact that an 0. K. Kellogg, switchboard, had been replaced on account of some

O. K. Kellogg, switchboard, had been replaced on account of some patent litigation. I have never known, in my experience, of a case of litigation,—but I presume there have been cases but I have never known of any.

Q. Do you know whether or not the General Staff maintains a

legal patent department in New York?

A. Yes, sir,—they have a well developed patent department which handles these matters and it is specifically important just at the present time because there are so many new developments which are going on,—developments which, within the next few years, are going to be more important perhaps than they have been in the past, and we are going to get the benefit of them.

Q. Of course, there are patent articles on which the American Company owns the patents that are used here in the Houston Ex-

change?

A. Yes, sir, there are lots of them. Some of these patents cover devices which the Western Electric Company sells on the market to everyone; others of the patents cover devices which are licensed to be sold only to the Associated Companies, and still other devices which protect the development. I know that large sums of money have been spent in the last few years in acquiring patents to protect the development of automatic switch boards. All the expense,—the work and expense of the development work,—is borne by this

Development and Research body, and the only contribution we make towards it is the same as all of the Associated Com-

panies,—the 4½% payment.

Q. What can you say, Mr. Pennell, as to the benefits of the standardization work carried on by the General Staff of the American

Company?

A. There has been a great deal of benefit to us by reason of this standardization work. Everywhere you go over the United States you will see in the Bell plants the same type of material, the same type of construction. The same methods are used. This standardi-

zation may, perhaps, be analyzed something as follows:

First. There is the economy which is obvious; it would be very unsatisfactory to have one type of cross-arms in Houston and one in Dallas, and a different type in every exchange in Texas; and likewise, it would be foolish to have a different type in use by each of the Associated Companies. The Research and Engineering Department studies the types, selects the best types,—keeping in touch with all of the Associated Companies, and getting the benefit of their experience, and that result- in economy in the manufacture of that material, and also results in our getting the best types, and so you have two advantages—that of economy and efficiency,—because you have a standard thing, the best type, and that particular method will give you the best results; and so, also, you have another advantage,—that of availability to supply,—the supplier knows that

it is a standard type of cross-arm, and a cross-arm press or manufacturer can afford to carry a larger stock of that standard type than if you used ten or fifteen or twenty different types.

Then, there is another advantage in the cost of manufacture. The forces are all accustomed to its manufacture and use the same methods and same types of material. For example, if you should have a buyer in Houston and a switchboard should be destroyed, switchboards would be shipped in here by express from other points matched up with the switchboards in Houston, and workmen would come in and would know how to install the boards, because you have the same type as the boards in Houston, and so you have all of these advantages in the standardization. Now, this Research and Engineering Department has done an enormous amount of work in the standardization of materials, supplies and methods, and they are, as I said, pretty well standardized in Texas, and to get an idea of the magnitude of this in Texas this year, we will probably use something like two and one-half million dollars' worth of material in our telephone construction; and if there is a saving in this standardization of one per cent.—I don't know what the saving is, but I know there is a saving, but I don't know whether it is 5%, 1% or \\frac{1}{2}\%,\to but if there is a saving of one per cent, that saving this year alone will be \$25,000.00 in Texas. Now, the Southwestern Company could standardize its material, but couldn't standardize for the whole coun-

Q. Mr. Pennell, what effect has this standardization had on the

services rendered here in Houston?

A. Standardization undoubtedly results in a better type of plant, and if you have a better type of plant it must be reflected in the service. Several of the witnesses whom I have heard here,—Mr. Kelsey and Mr. Allison,—and I think several others, have remarked upon the good character of the plant in Houston and one reason for this is the fact that it is standardized. One feature in connection with this standardization which I mentioned—perhaps I could mention it a little more in detail—

Q. (Interrupting.) Do you know anything about the telephone

service in Paris,—it has been referred to a few times.

A. Why, in Paris, France,—not Paris, Texas,—they allowed each subscriber to buy his own type of instruments and suppliers got after the subscriber and wanted to sell their instruments. This resulted in many different types,—between two and three hundred different types of instruments and you can imagine the condition the telephone company was up against. Repair men had to have parts to repair all those different types, and the chances are that when they went out to repair an instrument, they wouldn't have in their hand-bags the repair parts, and the chances are they would not understand the secrets and so finally, the Government interfered,—saw that something had to be done,—and limited the number of instruments which subscribers could use.

Q. If they had had standard apparatus they wouldn't have had

that trouble'

A. No, sir,—that was an actual occurrence, and exists today, so I understand.

Q. Al- right,—go ahead.

681 A. I was going to mention this fire service. I have been through a number of company fires. Now, this is what happens,—when a big unit in a city burns down, and this happens because the Bell System and the standardizationed material and this General Staff which helps us out. A fire happens; there is a fire switch board kept in Chicago by the Western Electric Company, all the time,-it is setting there awaiting a fire,-it is there for that purpose, that board is shipped by express and workmen are rushed in from all surrounding Bell Systems, and if there is any question of credit at issue, that matter is looked after by the American Company and there is no question and no hesitancy because of any lack of If there is any question of a great amount of engineering to be done at once and the local company isn't able to do it, then this General Staff of Engineers will do that engineering for you-will help you out,—and the result is the service is restored just as quickly as is humanly possible to have it restored. That was the case when the main office in Kansas City burned down, and was the case in all fires I have known about,-in Philadelphia, and especially was it so in the big earthquake and fire in San Francisco, and the fire in Baltimore.

Q. Bringing that nearer home, did you know anything about the

fire the Southwestern Company had in Paris, Texas?

A. Yes, sir, there was a fire there.

Q. And in Austin?

A. And in Austin. At Austin, for example, our building was burned down on account of a fire in an adjoining building and a brick wall, I think, fell in our oue switchboards,—but in

of the State. We have in my office an emergency list of telephone apparatus, and we immediately as soon as we learned of the fire, got in touch with the people in Hawthorn, and I don't know, but in an incredibly short time a switchboard was on its way to Texas. Now, in this particular instance, this is what happened: For some reason or other, I don't remember the detail,—but the fire board wasn't available,—wasn't the right type, for Austin, or had been used for another fire shortly before,—in any event, it wasn't available, and the Western Electric Company reached out and took a board which was ready to be shipped to another Associated Company and shipped it down to Austin to take care of the emergency. Of course, that was taken up with the Associated Company and they were willing to let it go, because this was the greater emergency

Q. How is this standardization work and the result of that work, and of the research done by the General Staff of the American Company, received or presented to the Southwestern Company?

A. One of the chief ways of presenting the results of that standardization work is through specifications and handbooks—circular letters. There are specifications written for practically every bit of material that goes into our plant. We buy it under that specification, it is generally inspected under that specification, and we know we are getting just what we want. It is a question of standardization

and the way they do the work, and it is fully presented in the 683 hand-books, so that an employee can see a picture. hand-book will have a leather cover and be full of diagrams. We find that the employees will look at a picture and see how a thing is done very often when they won't read a long description.

Q. Now, Mr. Rhodes showed us several of those hand-books. A. He showed them, and may be Mr. Howard didn't see them here. I have some here and you can look at them. You will see

that it is full of pictures.

Mr. Duls: I would like to offer this as an example of the handbooks that you are speaking of, same being: A. T. & T. Co.'s Specifications 3850, dated March 1, 1917, entitled, -Sub-station Protector Installation,—as Plaintiff's Exhibit No. 153.

(The hand-book was thereupon received in evidence, marked: "Plaintiff's Exhibit No. 153, witness Pennell" and is filed herewith.)

A. Now, these hand-books are not evolved out of thin-air by some engineers in New York who are theoritical men; they represent the combined experience of all the Associated Bell Companies in the field. The first step of making them, the Research Staff gets in touch with the engineers in the field and gets the best ideas of all the engineers in the field; then there are these ideas combined into a preliminary draft and the hand-book then is sent out to the field for We comment upon it. It goes through that process comments.

perhaps several times, and finally gets in this form and represents the consensus of those minds on that particular line of work throughout the country. You can see that that character of work couldn't be done as efficiently as it is except in a central The linemen follow then exactly and discuss them among themselves,—the drawings and all that,—and our engineers generally before the construction forces have left the work inspect the work which the construction forces have done and see whether the work has been built in accordance with these hand-books, and if

it isn't they are asked to correct the work.

Q. That means, does it, Mr. Pennell, that the engineers and employees of the Southwestern Company actually use the information that's furnished in these books?

A. Oh yes,-but not in order to-

Q. (Interrupting.) Well, you are the Chief Engineer of the Southwestern Company, and you know that these books are used?

A. Yes, In order to show that they are used, I have had some photographs made of the work in Houston and put against those photographs the order out of the hand-book which was followed. course, these things are changing, as the rate of development has been rapid and we get new ideas in standardization, and probably some of these photographs might not show as standard in the handbooks I have shown you, which are the most recent hand-books, but they do show the standard which was the latest standard at the time the work was put up.

Mr. Duls: We offer this as Plaintiff's Exhibit No. 154.

(The exhibits containing the photographs referred to were thereupon received in evidence, marked: "Plaintiff's Exhibit No. 154, Witness Pennell" and filed herewith.)

Q. Mr. Pennell, what did you say that this exhibit shows,—this

Exhibit No. 154?

A. This exhibit shows views taken from various places in Houston, showing the telephone plant as it is actually built. On the same page, or on the opposite page of the exhibit, is a cut from the handbook which shows the method which the construction people followed. For example, on the first page,—page "A,"—there is a telephone cable which went close to an electric light wire, and it's protected with a wooden moulding like the Diagram 70.

Q. That Diagram there first appearing in one of the hand-books?

A. Yes, on the next page—"B" we see the way,—a photograph of a cable terminal on a relay cable, and we see how the cable terminal is placed on the pole,—how the splice is made between the top cable and the main cable, and if you compare that with the cut, the Diagram 76,—Diagram 75, the right hand cut, you will see that the cable-man has followed that diagram as closely as he could and see that through the other photographs. This exhibit was made to show merely that the men actually did use these books and followed the standards which we all agreed to.

Q. That is, the men employed by the Company here in Houston? A. Yes, Now, I have other examples of hand-books which show how this matter of standardization is presented by this Engineering

& Research Department to the Southwestern Company.

686 Q. Are these hand-books or circulars?

A. This is called a Traffic Circular, and is: "Local Operating Text Book." Each telephone operator repeats the same thing over and over again,—many times a day,—that is, she put- up the connection at the switch board and any saving in any one of her many movements,—I am speaking now of the phrases which she uses when she speaks to the subscribers daily, although in itself small, and perhaps insignificent, yet it amounts, in the aggregate, because the phrases are repeated again and again, means a marked saving; and consequently they have been gone over very, very carefully and there has been written this "Local Operating Text Book."

Mr. Duls: We offer this Traffic Circular No. 113—"Local Operating Text Book"—as an example of the circulars received by the Southwestern Telegraph & Telephone Company from the General Staff of the American Company on engineering matters, as Plaintiff's Exhibit No. 155.

(The circular was thereupon received in evidence, marked "Plaintiff's Exhibit No. 155, Witness Pennell," and is filed herewith.)

A. I could show a lot more of these, but I don't think—but I think Mr. Rhodes and Mr. Estabrook have shown them to you already, but I have prepared a list of some of the circular letters and certifications and hand-books which we have received.

687 Mr. Duls: We offer this as Plaintiff's Exhibit No. 156, the same being details of some of the circular letters and certifications which the American Telephone & Telegraph Company has prepared for the Associated Companies, copies of which have been received by the Southwestern Company, Houston, Texas.

(The exhibit was thereupon received in evidence and marked: "Plaintiff's Exhibit No. 156, Witness Pennell" and is filed herewith.)

A. It may be interesting just to look through that list and for me to talk about one or two little items. On the first page, under "Circular Letters" is the item: "Black Finish Desk Stands." refers to a development in the finish of the desk stands—the little They have a brass up-right and desk stands,-I think this is one. enamel black finish which is made of a certain paint; I think it is Murphy's paint—it is called; I am not sure of that, that wears off, expecially with some people, who have acid or alkali in their hands, and you will notice that the stands with some people wear off much more rapidly than others. Well, they developed a stand on which this is a steel upright, and therein was a saving, as steel is cheaper than brass and used a Bowerbarff finish. Now, when this Research Department was developing this desk stand, they wanted to put it in places where is was very damp and where there was saltair, and they sent some down,-the first batch down to Houston, and we had them here and in Galveston in our plants and observed them.

There were several types made of slightly different manufacturing processes and we had them in our plant here for, I guess, over a year, and we reported to the American Company, and finally took them out and sent them back; the same experiments were going on in other fields, where the climate conditions were similar, and resulted in the development of the stand now being used, but we haven't a large number of them yet in the plant,—this is an old type, I believe. These people are working all the time on this development for serving and improvements to us, and all of the Associated Companies pay for the work through our 4½% arrangement, and I think, really saves us for more than we ever put into it. I don't know that it is really worth while to go through the list. You can see that it covers every part of the telephone plant,—switch boards, pins, cross-arms, break-finders,—everything that you can think of.

Q. So that this information that is furnished by the General Staff of the American Company isn't of such a technical or impractical nature that it is of no real value to the Southwestern Company?

A. No, no, indeed; it is used in our work all the time.

Q. There isn't any big warehouse where the general staff of the American Company goes and gets this stuff out and ships it to you by carloads, is there?

A. No, sir.

Q. Now, Mr. Pennell, is that all you want to tell us about the standardization benefits received by the Southwestern Com-

689 pany from the General Staff of the American Company in return for the 4½% payment to the American Company?

A. There is another type of standarization which I would like to talk about just a little, and you might call that "national standardization." The company has developed to the point where there are interests which cover considerable area,—several States or the entire country,—which affect the telephone interests, and standardization of a rather national type has to be carried out, and this staff of engineers represents the Southwestern Company in the carrying out of this kind of standardization. They don't do it arbitrarily. They get in touch with us when anything comes up about which they think we may have doubts or differences of opinion. We get in touch with them, or they with us, and in that way we receive the benefit of the experts of all of the Associated Bell Companies.

Q. Do you mean national?

A. Yes. I can illustrate it, perhaps, best by giving you some specific examples; there is a National Electric Guide, which consists of regulations which the National Board of Fire Underwriters,—in other words, rules showing how you should run electric wires and telephone wires in order to avoid wire hazard; the Fire Underwriters, in order to reduce the fire risks—

Mr. Duls: I want to offer this as Plaintiff's Exhibit No. 157, the same being National Electric Code, regulations of the National Board of Fire Underwriters for electric wiring and apparatus, as recommended by the National Fire Protection Association.

690 (The exhibit was thereupon received in evidence, marked: "Plaintiff's Exhibit No. 157: witness, Pennell"—and is filed herewith.)

A. Some of the things I know from my own experience which have been suggested for this code, and some of the things are extremely obnoxious and a telephone company wouldn't complain, and they add considerable expense to this wiring. The Engineering Division of the American Telegraph & Telephone Company represents us in the conferences which are had with the Fire Underwriters when new editions of this code are to be brought out, and in that way the construction is specific and is safe and sound, good engineering, and yet it is practical,—perfectly practical, and is satisfactory to the telephone interests. If they did not represent us, we would have to be represented by having a man go to New York, Chicago, or Washington,—wherever the conference is held,—and we would have to go to that expense, or else have to leave the matter in the air—without any representation, and take the chances that some rules might be established which would be injurious to us.

Q. Does the American Company make a special assessment against the Southwestern Company for the time and traveling expenses of its experts in attending these conferences and representing the Southwestern Company,—or is this service included in the payment

which you have been describing?

A. This service is entirely free; it is part of the payment.

Another example of this national engineering is what you

692

might call problems relating to electrolysis. Now, as damage is caused when an electric current leaves the metallic structure, which is part of this earth, electrolysis takes place on the telephone cables. in the ducts,—takes place on gas pipes and water pipes,—and you can see that various interests are involved. Gas companies are involved, water companies, perhaps the electric light companies, and the telephone companies. Now, in order that proper engineering practices shall be followed in order to minimize this trouble, it was necessary for all of these interests to get together. It is going to cost the telephone company something to build its plant in such a way that electrolysis will be minimized and also help the trolley company and perhaps remedy it, and it ought to be done in accordance with good engineering, and safe and sound. Now, there has been a committee appointed, called the American Committee on Electrolysis. to study this process, and on the Committee are the American Electric Railway Association, American Gas Institute, American Institute of Electrical Engineers, American Railway Engineering Association, American Water Works Association, National Bureau of Standards, National Electric Light Association, The Natural Gas Association, and the Amercan Telephone & Telegraph Company, which is this Engineering Staff which represents the Southwestern Company.

Q. Have you a copy of the report of that Committee here?

A. This is it.

Mr. Duls: Offer that as Plaintiff's Exhibit No. 158, the same being entitled, "A Preliminary Report Prepared for Submission to its Principals by the American Committee on Electrolysis—1916" and ask that the stenographer mark it.

(The report was thereupon received in evidence marked: "Plaintiff's Exhibit No. 158, Witness Pennell" and is filed herewith.)

A. Another example of this National Engineering is the specifications for the crossing of wires and cables over railways. The railways of the country are insisting on standard construction where the wires cross the rights-of-way, and a conference was had between the Association of Railway Telegraph Superintendents and the wire interests, in which the American Company's Engineers represented the Southwestern Company, and as a result these specifications for the crossing of wires and cables over railways were worked out, and it provides safe construction, one which is agreeable to the telephone interests. Some railroads wanted construction which was excessively expensive and was not any more conducive to safety than more reasonable standards which were finally adopted.

Q. Have you a number of copies of those?

A. Yes, sir.

Mr. Duls: We offer this as Plaintiff's Exhibit No. 159, the same being: "A. T. & T. Co.'s Specifications No. 3636"—entitled, "Specifications for crossing of wires, of cables, of telephone, of telegraph, signal and other circuits of similar character over steam railroad rights-of-way tracks, or lines of wires of the same classes."

693 (The exhibit was thereupon received in evidence and marked: "Plaintiff's Exhibit No. 159, Witness Pennell" and is filed herewith.)

A. Still another example of this national engineering is the National Electrical Safety Code, gotten out by the Bureau of Standards of the Department of Commerce of the United States; they have been working on a National Safety Electric Code; in other words, a series of rules or codes which will be condusive to safe construction in electrical work, and the telephone interests are concerned.

Q. Is that for the protection of the employees of the Telephone

Companies?

A. It is both for the protection of the employees and for the protection of the public,-protection of human life. The telephone companies are concerned, for they want safe construction as far as it can be done economically conducive to safety. A great many conferences were held between the engineers of this Bureau of Standards, and in these conferences the Bell interests were represented by this Staff of Engineers who got in touch with us, that is, the Southwestern Telegraph and Telephone Company, wherever any question arose in which they felt that the Southwestern's interests were involved,-in other words, the standards, as now adopted, are satisfactory to all telephone interests. We have been represented by a staff of experts without expense, and probably more ably represented than if we had had our own representatives, because we have had the benefit of experts.

694 Mr. Duls: We offer this as Plaintiff's Exhibit No. 160, same being Department of Commerce's Circular of the Bureau of Standards, National Electrical Safety Code.

(The circular was thereupon received in evidence, marked: "Plaintiff's Exhibit No. 160, Witness Pennell" and is filed herewith.)

(By Mr. Duls:)

Q. Mr. Pennell: Is this circular of the Bureau of Standards, referring to safety, used here in Houston in construction work for the

Southwestern Company in this exchange?

A. Yes, sir, as far as I know, our plant is built in accordance with these rules. The rules are a little involved in some cases, and it would take an engineer to interpret them, but all of our standard hand-books are drawn up so that they conform to the rules. The telephone interests were really the pioneers of the "Safety First' movement, which has been a very popular movement of late years, and we have heard a great deal of it in late years. We have had this safety first movement for-we haven't called it safety-first, but our engineers—we have been all working on it for a long time. lawyers are very eager to point out to us whenever we have an accident how much it costs and how it could have been prevented by some other types of construction.

Q. Are there any other illustrations of national engineering problems that you want to tell us about?

A. I think not.

Q. Then the General Staff of the American Company keeps the Southwestern Company advised as to the progress on these various matters that you have just testified to?

A. Yes, they couldn't handle it any other way. They couldn't represent us in our conferences, represent us—really represent us, unless they kept in touch with us all the time; and if a problem comes up which they think might affect us peculiraly, they get in touch with us either by conference or correspondence, and they represent us thoroughly and carefully as possible for us to be represented.

Q. Does the General Staff-

A. (Interrupting.) We have the privilege, of course, of having our own representatives in all these conferences if we want to. There is nothing to prevent us doing that if we feel that it would be of any value to us, but then we are represented as well as, and probably better, than we could probably be represented ourselves, and we save the expense in having them represent us.—All I can say is that they have never told us not to—I have talked to them, and they have no objection in the world to our being represented if we wanted to.

Q. Mr. Pennell, when we adjourned yesterday afternoon you were telling us of the services rendered the Southwestern Company at conferences where engineering questions, such as the crossing telephone wires over railroad tracks, high tension wires, and other questions of that sort, were taken up and decided, and how the General Staff undertakes to protect the interests of the Southwestern Company at these conferences. These are general problems that affect

the Southwestern Company, are they?

696 A. Yes.

Q. Does the Southwestern Company ever have occasion to call upon the General Staff of the American Company for advice. on specific problems that arise in the operation of its business?

A. Yes, quite frequently,

Q. Well, can you mention some cases of these specific services

called for by the Southwestern Company?

A. Yes, sir. Of all ordinary problems we have, we can solve ourselves; occasionally there is a problem which is rather new to us, which we haven't had very much experience on, and and a problem of that sort arises, we get the assistance of this General Engineering Staff,—Research Staff,—on problems of that sort. Problems of that sort will arise when a new type of apparatus is introduced; for example, in connection with machine switching or the automatic telephone, why problems of that sort arose and we have already asked them for advice in connection with machine switching in Houston. We may have a problem which will arise in Texas for the first time,—it has occurred in the United States, perhaps, a good many times in different parts of the territory. When a problem of that sort arises, if we feel that we will be benefited by advice from this staff of engineers, we ask them for advice and get it. Now, I have

made a list of a number of problems in which we asked them for specific advice, and I have got it as an exhibit here. Q. Let's have that, Mr. Pennell.

A. A very good illustration of this class of problems, it doesn't reply to the question,-but it came up recently with 697 reference to long telephone cable where we were stringing a long telephone cable between Dallas and Fort Worth.

Mr. Duls: We offer this as Plaintiff's Exhibit No. 161, being entitled: "Partial List of Special work done on problems for the Southwestern Telephone and Telegraph Company by the General Engineering Staff of the American Telephone & Telegraph Company.

(The exhibit was thereupon received in evidence and marked; "Plaintiff's Exhibit No. 161, Witness Pennell" and is filed herewith.)

(By Mr. Duls:)

Q. Al- right, Mr. Pennell.

A. I started to say that this long cable between Dallas and Fort Worth has resulted in a type of problem in which we haven't had much experience, and in which they have had much experience; and when the problem arose, we got advice from them. This long cable line is thirty-five miles long and is the first one strung in this part of the country, yet, in the centers of population in the East these cables are quite common, and the General Staff Engineers have experience with that type of construction. When we started the engineering on that cable, we availed ourselves of their assistance. In this list I have marked first here the question,—the problem of fundamental plans. I imagine that Mr. Rhodes explained fundamental plans.

Mr. Rhodes has explained that to us and it won't be neces-698 sary to go into that. You know that the General Staff has assisted the Southwestern Company with preparing fundamental

plans.

A. Yes, sir. We do not make fundamental plans. We haven't got enough of that work in Texas, as there are only four cities in Texas sufficiently large to require the making of fundamental plans. In this fundamental plan work the American Company actually sent men to Houston and they spent three hundred and eight days here; that is, the men days were three hundred and eight. Arnold, Wallis, Plummer, Holt and Copp were the men. It is interesting to see their forecast was made of the population of Houston. In 1915 a forecast was made of the population of Houston as of 1929. That population is 245,000. In 1906 they made a forecast of the population of Houston for 1920. That forecast was 175,000. That forecast will be verified very shortly, when the census comes out,-I don't know what it will be.

Mr. Powell: It wont be very far wrong, I don't think.

A. Now, these fundamental plans are made only in the larger

cities of the country, and in this Staff of Engineers are experts who do nothing but work on the development portion of these fundamental plans,—making a forecast of populations, forecast of growths; they are apart from the local color,—they aren't prejudiced; perhaps, as a local percon would be. In our experience, we get an estimate

of local people, and it is obtained in every case before this estimate is made, and yet very often it is likely to be a little exaggerated—the population—as people are naturally interested to see their own home town large. I know that has happened

to me several times when I have made an estimate of the population of the town I was living in.

Q. Now, Mr. Pennell, in regard to buildings and general office equipment, has the General Staff rendered the Southwestern Company, specifically, any service applicable to the Houston Exchange?

A. When each of the buildings in Houston were built, plans were reviewed by the engineers of the General Staff. They have a telephone architect who spends all of his time in studying the design of telephone buildings, and we obtained his assistance and the assistance of the equipment engineers in suggestions on the plans which were prepared for the buildings, and we actually got suggestions and availed ourselves of them.

Q. What would you say with respect to the services by the General Staff in regard to sub-station equipment, specifically, as applied

to Houston?

A. They have rendered us the services I mentioned the other day—the design of the desk stands. They have rendered us, perhaps, more service in connection with the design of central office equipment. When each of the common battery switch boards which are installed in those buildings were erected, they revised—they reviewed the plans of the switchboards and helped and assisted us in the preparation of the plans.

Q. Did they give you any advice in regard to the handling of the service between the cantonment established here during

the war?

A. Yes, sir—they did a lot of work in connection with Army work. There had to be almost one channel through which that information regarding telephone service in cantonments should come from the Government to the Associated Companies. It was necessary to have a standard telephone service in all of the cantonments; they served as the department to receive this information and to confer with the Government, and the information was then passed on to us. As a result, the telephone plants in the cantonments in Texas were built in accordance with the standards decided upon by the Government in their conferences with the Telephone Company.

Q. Now, on page 5 of this Exhibit No. 161, Part III. you have listed a typical—or you have listed typical items of work done in aiding the Southwestern Company with its substation equipment, have

you?

A. Yes.

Q. Has the General Staff rendered the Southwestern Company any service with respect to its outside plant?

A. Yes,—they have rendered us a great many services; I have out-

lined them on pages six and seven and seven and a half.

Q. Does that work apply specifically to the exchange of the Southwestern Company here in Houston?

A. It applies to all parts of the outside plant exchange.

Q. In regard to the protection of life and property, you testified yesterday to some of the services that the General Staff rendered the

Southwestern Company in that regard.

A. There is a relatively new plan, or type, of specializa-701 tion of engineering called "Insurance Engineering." There is a branch of the Engineering Department known as the Insurance They have some engineers-inspectors-who make detailed inspections of the larger telephone properties in the country, with a view of making suggestions which would reduce the fire hazard. In Houston they have made inspections from time to timethey inspected the Preston Building three times-that is this building-the Hadley Building four times; the Taylor Building three times-during the period from 1916 to 1919.

They made certain suggestions as to changes which might be introduced which would reduce the Insurance hazard, and these changes have to some-to a considerable extent, been complied with.

Q. Has the Southwestern Company-I mean, has the American Telephone and Telegraph Company—the General Staff of the American Telephone Company, rendered the Southwestern Telephone and Telegraph Company any service with respect to traffic?

A. Yes, they have rendered a number of services with 702 respect to traffic. They had traffic experts visit the city of Houston a number of times. Mr. Christianson, in 1913, visited Houston, making a special study of the service observation; you understand that we observe a certain percentage of our service-of the calls, to see whether they are handled properly. We do that in order to get a line on the service we render or are giving the public.

Q. On pages ten and eleven-

A. (Interrupting.) Mr. Allen also visited Houston in 1913; Mr. R. E. Walker also visited Houston in 1917; all on these service problems.

Q. Well, Mr. Pennell, those services are not rendered at one time

and then never rendered again?—are they continuous services?

A. They are a continuous proposition. When anything comes up

that makes us feel it is desirable to obtain special service, why, we take the matter up with the General Engineering Staff and they will either send engineers here or we will have a conference or get together and get the information which we want.

Q. Now, on pages ten and eleven and twelve you have listed

services with respect to operating and traffic?

A. Yes, sir. Q. Has the General Staff rendered the Southwestern Company any service with respect to transmission?

A. Yes, they have done a good deal. Transmission has been developed, especially the last few years; it is a branch of 703 telephone engineering which is assuming greater importance

every day. Transmission is that part of the telephone engineering which relates to the transmission of the electrical currents over the wires. It is a very technical and very interesting part of the business. The General Staff has developed the technical instruments which are used in studying telephone transmission. It may be interesting to you to just mention a few of them. They have noise meters. They have standardized the units of noise, so that if a line is noisy, the question arises—how noisy, how objectionable it is and so they get the units of noise and can measure the line and see. It is simply a refinement of engineering-in other words, it measures how noisy that line is-how objectionable is the noisethey have noise meters-

Q. (Interrupting.) Would that thing apply to the transmission

here in Houston?

A. I don't suppose there is a noise meter in Houston, but we have noise meters in the general offices of the Company in Dallas, and they are undoubtedly in use in Houston; they are available for use anywhere in the State.

Q. I have reference to the distinction between long lines and

local service?

A. Oh! that's used on the local lines and long lines; even crosstalk meters; the talk, I mean, which you hear on one line which is noticed on another line; sometimes when you are talking on a tele-

phone you hear someone else talking on another line-that's 704 what we call "cross-talk, how much cross-talk there is; then, they have impedents, measuring sets, and have frequency

analyzers, so that we can analyze the over-tones in the telephone We have meggers, and all sorts of scientific instruments which were developed by this Staff of specialists who are working on that line of work which can not be obtained anywhere else. They have been placed at our disposal and are for use on exchange lines in Houston or on any exchange in the State.

Q. Now, these are examples of specific services rendered by the

General Staff to the Southwestern Company?

A. Yes, sir.

Q. Just examples?

A. Yes, sir.
Q. And not, by any means, a list of services rendered by the General Staff of the American Company to the Southwestern Company?

A. No, sir.

Q. Are the engineers of the Southwestern Company in constant

communication with the engineers of the General Staff?

A. There is constant communication between us. That's accomplished in a number of ways-perhaps the largest channel is through correspondence-letters which are gong back and forth every day; there are conferences—conferences held at quite frequent intervals; one is being held next month, in which the Traffic Engineer of the Southwestern Telegraph & Telephone Company will be present; one was held only two or three weeks ago in St. Louis, at which the representatives of this Company were present; sometimes con-

ferences are held in Texas, sometimes they are held in St.

Louis, and sometimes in New York. Another method is through visits; our engineers will visit their engineers, or their engineers will visit Houston or Dallas. To illustrate the value of this correspondence, I have gone through my files and made a list of just the titles of some of these letters, and haven't taken them all—I have just taken a few, so you can get an idea—just a picture of what the scope of it is. In other words, there is in New York a staff of expert engineers who can get the experience of all the Associated Companies and the experience of all of the other telephone companies in the world. They have that information available for use and we use it whenever we feel—whenever we feel that we need it. There is very little literature on telephone engineering. It's relatively a new art. There is engineering literature on power building, for example, and a lot of engineering works on water supply; they have been in existence for a hundred years, but there is relatively no engineering literature in existence—perhaps I put it a little strongly—there is very little which is of assistance to us in existence in book form. The art isn't old enough.

Mr. Duls: Now, we offer this as Plaintiff's Exhibit No. 162, the same being; "Partial list of letters received from the American Telephone & Telegraph Company, bearing on special services rendered to the Southwestern Telegraph & Telephone Company."

706 (The exhibit was thereupon received in evidence, marked Plaintiff's Exhibit No. 162; witness, Pennell,—and is filed herewith.)

By Mr. Duls:

Q. Mr. Pennell, I note these letters include advice and assistance on problems relating to Houston, as well as to problems relating to Texas in general. I notice that on Page 1 you have a letter, dated March 29th, 1913, regarding fundamental plans for Houston, Texas.

A. Yes, sir.

Q. Another one, dated July 9th, 1914, relating to the commercial

basis Houston development studies.

A. Yes, sir. I have just taken typical letters, quite a number relating to specific problems in Houston and quite a number of general problems which may be available to Houston, and may be needed.

Now, on Page 4, at the top of the page, a letter dated January 11th,

1915, my copy is blurred,—what is that?

A. This is moisture-proof switch board cable. The question of humidity is quite an important one in connection with the design of telephone equipment in Houston. The climate here is humid and the moisture is liable to have an injurious effect on the apparatus, and special precautions are taken to prevent that,—and there are

24-219

quite a number of letters in the correspondence which I have had. and I think that there are some listed here on the question of moisture conditions in Houston. A special cable was designed for use in

Houston,—a moisture-proof cable. I think the first example 707 used in Houston was a specially enameled insulation placed on the wires underneath the other insulation,—in there to help against this moisture.

Q. Now, Mr. Pennel, do the engineers of the American Company do work which the engineers of the Southwestern Company could

just as well do, themselves?

A. No,-there is no duplication of the work, whatever. The local engineers do the field work in the construction, the engineering, and the engineers of this General Department do the research and development work and such specialized work as affects a few cases in any one locality.

Q. Well, why wouldn't it be more economical for the Southwest-

ern Company's engineers to do both kinds of work?

A. We can not afford to have a staff of engineers which would do the research work in the manner in which it is being done, for, if we did have a research department, it would have to be, from financial limitations, smaller, and no research department in any single company could accomplish the work which the centralized department does, which has the advantages of the entire country.

Q. You mean that the present arrangement results in less cost to the Southwestern Company than if the Southwestern Company per-

formed the work itself?

A. Yes, sir; if we attempted to perform the same services we are getting under the contract, it would cost us a good deal more than

it is costing us today.

Q. Now, Mr. Pennell, you are an engineer, and you have testified to the engineering services rendered by the General Staff of the Southwestern Company. Does the General Staff render legal services?

> A. Yes, sir, they render legal services. Q. Then render accounting service? A. Then render accounting service.

Q. Does that accounting include the auditing of the books of the Southwestern Company?

A. The American Company auditors audit the books of the South-

western Company.

708

Q. Mr. Blair-Smith told us something about that, but you know it is a fact that it is done for the Southwestern Company?

 A. It is done,—yes, sir.
 Q. Does the General Staff render financial services to the Southwestern Company?

A. Yes, sir, they do,—financial services of great importance.

Q. Mr. Blair-Smith also told us about this financial service rendered the Southwestern Company by the General Staff, and so we won't go into that with you. Is this arrangement under the Licenses Contract, by which the Southwestern Company receives the use of the instruments, and all these other services, worth what the Southwestern Company pays for them, in your judgment?

A. It is.

Q. Is there any other way by which the local exchange here at Houston could get these services?

A. There is no other way that I know of.

Q. Do you know of any other body of men in existence in the world that could render that service?

A. There is no other body.

Q. And for that the Southwestern Company pays 4½% of these receipts that you have mentioned?

A. Yes, sir.

A. Yes, sir.
Q. If the Southwestern Company should sever its relation 709 under the Licensee Contract with the American Company, would it, or would it not, have to build up an organization similar to that of the General Staff?

A. To accomplish the same purposes, it would have to,—yes. Q. Well, it would either have to do that, or have to go without those services?

A. Exactly.

Q. And if it did not receive those services, what would be its ability to render the class of service that it is rendering today?

A. It would be difficult to do that. It would be reflected in the

class of service, without any doubt.

Q. Of course, and—it would cost more to build up such an organization and maintain it than it is costing the Company now, under this 41/2 % arrangement?

A. Yes, sir,—it would.

Mr. Duls: That's all, Mr. Pennell.

Cross-examination.

(Questions by Mr. Howard:)

Q. Have you any idea what year's salary is paid to any of these engineers?

A. I haven't any idea what their salaries are at all.

Q. You wouldn't undertake to tell us, Mr. Pennell, in any 710 way, what the cost is to the American Telephone & Telegraph Company of the service?

A. I haven't any idea.

Q. You have spoken of patents, and told us of one or two patents, Mr. Pennell, that are used in local exchanges, as distinguished from long distance operation. Now, tell us where the Southwestern Company, by its association with the American Telephone and Telegraph Company, is using any principle that's not open to the world?

A. The patents covering the loading coils,—the original patent

of the loading coils.

Q. You stated yesterday that loading coils-

A. (Interrupting.) No loading coils are used in the Houston Exchange. There are a number of patents covering the old coils, and the old coils are in the Houston Exchange; there are a number of patents covering repeaters,—repeaters are in the local exchange; there are a number of patents covering devices in connection with the building out of circuits which are in the Houston Exchange.

Q. Now, do you mean to say that the independent companies have no use of any article that involves the principle of a loading coil?

A. The loading coils, as they are made today, and as they are protected by patents today, are available, practically, to the Bell System, and not to others.

Q. The Independent Companies have loading coils, also?

A. No, sir, not to my knowledge. I don't think any inde-711 pendent company which has a loading coil—there are none made, except the Western Electric, and they are licensed only to be used by Bell Associated Companies. That is my understanding.

Q. How long have they been in use?

A. Oh, I guess the first coils have been in use—perhaps seventeen or eighteen years.

Q. And that's an old patent, is it?

A. The original patent has expired,—expired a year or two ago,—but a lot of patents have been brought out covering improvements, and so I don't imagine that any one would attempt to manufacture a coil under the original patent.

Q. Give us an example of a recent material patent that involved a

principle that's not open to independent companies.

A. I don't think the duplex cables are used by anyone except the Bell System, to the best of my knowledge,—they are new.

Q. Are they patented?

A. I think the process is patented, that is, the cable, which is arranged by twisting the wires you can get a phantom circuit. There is a cable of that sort in Houston.

Q. How much of it, and how much is in use?

A. It has been here for four or five years, I think. I don't know, and would have to look in the appraisal.

Q. What's the particular benefit of it?

A. It enables you to operate a pahntom circuit over two physical circuits through the cable.

Q. That's just as clear as mud to me, Mr. Pennell. I want

to see where it is an economy.

A. Most of the patents which are in use in the Exchange in Houston, here, are patents owned by the American Company, and the Western Electric Company sells the product to the trade.

Q. Take the main part of the telephone industry and the equipment that is necessary to operate a telephone in a practical way, and an independent company could get along very well, so far as delivering the goods is concerned, couldn't they?

A. Well, I don't know exactly what you mean.

Q. I mean that they could take a receiver off of a hook and ask central for a number and get the party that they want to talk to-

get it as promptly as you can over a Bell phone?

A. The Independent Companies give telephone service, of course, but they don't give, however, the complete telephone service the comparative telephone service that they give. You couldn't group to

gether the independent telephone companies in this country and give a service from coast to coast, or to another place; it is impossible to do it, and there is no independent telephone company that I know of today that could give telephone service in New York-

Q. We are concerned with Houston, and I am trying to find out what benefits we get. We have a comparatively small exchange here, and we are not interested in your service which enables you to talk to San Francisco from New York, or the benefit of any other large city like New York,—they are not present

here, but we are trying to find out what these people have done that have saved the people the amount in money, or that tends to make the service cheaper. Now, in that connection, Mr. Pennell, since the days when you cut out the old magneto battery and stopped ringing the bell, and put the receiver on a hook, what improvements in a practical way have there been that have been of benefit to a subscriber, that have been provided by this Staff or by anybody else?

A. Why, I outlined a lots yesterday.

Q. . am talking about in a practical way. A. Fifteen years ago? My answer-

Q. (Interrupting.) That was about the time you changed these batteries?

A. Yes.

Q. Fifteen years ago a subscriber took down that receiver off of a hook, asked central for a number, central responded, the sub-scriber got in connection with the party he wanted to talk to, held his conversation, put the receiver back on the hook, and would go about his business?

A. Yes.
Q. He held a satisfactory conversation—could do it in the same length of time that he does it now,—did it with no more danger of getting a ring-in or getting crossed with somebody else's line, and with no more tax upon his patience and his good nature than

he does today? In other words, that's the same service fifteen years ago that he gets today, so far as he is concerned, did he not?

A. What's your question?

Q. I say, fifteen years ago he got his service—just as good service, and in just the same time as he gets it today?

A. You mean in Houston, here? Q. In Houston.

- A. I couldn't tell you. I don't know how the service compared; it may have been better and may have been worse; I don't know. There was telephone service,—there was battery telephone service
- Q. Well, in Houston, or anywhere else, didn't a subscriber fifteen years ago get just as good service as he is getting today? A. Well, he got telephone service, but I don't know how it com-

pared fifteen years ago, with the service he gets today.

Q. There has been no radical change, so far as the local exchange is concerned,-no radical improvements, anyhow?

A. There has been a very radical improvement in the cost of giving that service.

Q. So far as the service is concerned, he hasn't received any special improvements rendered him? Just the same service, just as effi-

cient service fifteen years ago as it is now?

715 A. I didn't say that. I think if you will examine the records you will find that the telephone service fifteen years ago wasn't as good as it is now, perhaps, and even discounting the effects of the War; and besides, I think you will find, in fact, I know the telephone service has improved. It is better, and I think that I am correct in saying that the telephone service in Houston, even today-before we have entirely recovered from the effects of the War, is better than it was fifteen years ago, because we have got improved methods. I will tell you why, Mr. Howard; I have got records of certain cities,-I haven't got them of Houston,-which shows a comparison of the telephone service, and it has improved in the last five or six or seven years, and I know, taken as a whole, that the telephone service here-

Q. (Interrupting.) Let's see from the subscribers' standpoint how it has improved. Does he get his central connection any

quicker?

- A. Yes, sir, in all ways; there are fewer errors, quicker connections, fewer cut-offs, and things of that sort; and I am discounting the service here. In some cities, and it is the same here, which is affected by the War, and we haven't recovered from it, and I think it is only fair to do so, but in my opinion, in Houston, I think the service is better today than it was fifteen years ago, because we know how to handle it better.
- Q. The repeater, I believe you said, is used almost exclusively on long distance service?

A. It is used to improve the transmission when the ex-

change lines are connected to long distance lines.

Q. Now, Mr. Pennell, this Staff is working out a great many new ideas, some of which are patented, and some of which are not?

 A. Yes.
 Q. You undertake, then, to apply them in a practical way to the art. do you?

A. Yes.

Q. And do they all succeed?

A. I don't know of any idea which they have put out that has not succeeded, for this reason: That before it goes out to the field as a practical device, it has been tried—as they work up something they try it, they put it in experiment and watch it.

Q. But it is a very common thing for things to pass the experimental stage—some to pass the tests,—the instruments, when put into practical use, do not do what is hoped for, -isn't that true?

A. It may be that that happens, but I do not know of any such case in my experience in the telephone business.

Q. And, of course, in such an experience as this the cost of it would be charged up to profit and loss?

A. I don't know of any case like that—I don't think it has hap-

pened.

Q. You have got a group of scientists up there that are experimenting upon the properties of these different companies all over the United States?

A. No, sir-they aren't experimenting on properties.

Q. They put in every new notion that they conceive and go out and try the work out in the field, don't they?

A. They get a device which they think is an improvement. 717 which is an improvement, and they take it up with the engineers in the field,—the operating people in the field,—and get their opinion; and if it appears practical, appears to be a good device, an experimental installation is made. It is made as an experimental installation after first being given a laboratory test. I told you about the lead sheath of the cables. They were experimenting to make a cheaper lead sheath for the cable; tin had gone up in price,-the question was,-couldn't you get a sheath which would be just as good and cost less? They then made experiments and turned out an alloy and found alloy,-that the alloy, with laboratory tests, gave as good results as the lead and tin. They then made some sample lengths of cable and they took the matter up with one of the Associated Companies and had this sample cable pulled in,—had it observed and pulled out,—and it was finally deminstrated beyond any doubt that it was al-right. Now until a thing has gone through a process like that is it ever put out into the field to be used in the plants. There is no experimenting with operating plants,—anything like that, of course, would be fatal.

Q. Now, you referred to copper wire as a great achievement of this

Staff. Copper wire is not an invention of that Staff?

A. I said "hard-drawn copper wire."

Q. Well, even hard-drawn copper wife-is there anything new about that? 718

A. There isn't now.

Q. Hard-drawn copper wire has been in use a long time?

A. It has surely been in use ever since this General Staff devised it. I guess it was about thirty years ago. Now, I mention that as an interesting thing; it has been so long ago that most of us have forgotten about it.

Q. Didn't the Ancients have methods of hardening copper?

A. I think they did, but it was a lost art. Some of the old Roman Aqueducts have cement in them which is as strong today as it ever was: they knew how to make the cement-and that art was lost until early in the eighteenth century,—the nineteenth century, when it was discovered again. Now there was a process, apparently, for hardening copper which the Ancients had, but it was a lost art. There is no process now of tempering copper that I know of,—this hard-drawn process is a different process.

Q. The independent companies have access to this hard-drawn

copper wire, haven't they?

A. Yes, they have access to it. A great many of these inventions are of a nature that they are not patentable. They may have a special design, but this is true.—we have the benefit of this Staff for development purposes; this is the idea, -it is of service to us, and if others can't use it, why that doesn't lessen its value to us. ter of fact, many of them didn't use it because they didn't know about it until years afterwards. Some of the devices which are not used now by the independent companies,-I might mention the Automatic

Company here, which wasn't built so many years ago, and 719 practically all of the sheaths in their cables were pure lead and they didn't last. At the time we were using the lead and tin, and I don't think that composition was patented—don't believe it was a patented process—and yet the information was known to us through this Staff of Engineers and we were using that improved process, and they weren't using it because it wasn't known to them.

Q. This contract with the American Telephone & Telegraph Company is not made in a sense of feeling or gratitude, is it, for things

they did in the long-ago?

A. Not that I know of. Q. It is supposed to be a business contract for services that are peculiar to them, which they will render to these different companies?

A. Yes, sir—certainly.

Q. And even they may have discovered and revised the methods of the Ancients and devised a method of hardening copper wire, and that is open to everybody who wants to use it but now, coming to the year 1920, there is no service on account of that copper wire, because you don't get any particular benefit from the copper wire that any other company could not get?

A. I did not attmept to value the service. The invention of harddrawn copper wire—that was an invention long years ago-however, it was the invention of this Staff, and hadn't they invented it,

720 the telephone industry would not have had the value of harddrawn copper wire for the period of the time that it has had it. May be someone else would have invented it, but it would not have been invented so soon.

Q. Did you ever hear of any invention that didn't have a good

many claimants to being the author of that invention?

A. A great many do have alcimants.

board,—they invented that?

A. Yes. Q. They also, did they, invented this common battery switch-

Q. How long has the common battery system been available to other companies,-independent companies,-do they pay any royal-

ties or privilege for using the commony battery system?

A. They can't use the circuits which the Bell Companies use but they use the common battery. I don't think their common battery system is as efficient or as good a system as ours; they won't talk as well. You see, I am a biased witness; I have tested all common battery systems as an engineer, and in my opinion, from a technical point of view, the circuits in the common battery system we use are better.

Q. Those engineers of a manufacturer, and other independent

companies

A. (Interrupting.) They are devised by their shop engineers and are the only circuits that are open to them, because the Bell System of circuits are covered by patents that they can't use at

721 Q. Don't they claim that what they get is just as good,they work largely upon the same principle, do they not,-

all common batteries?

A. Well, it depends upon what you mean by "same principle."

The same trade principle?

Q. You have little methods and details which you say are of peculiar advantage, which other manufacturers will discredit and they will exaggerate the advantages and claims for their own production,-that's true, isn't it?

A. Well, our system is radically different from their system.

Q. They claim theirs is the best and you claim yours is the best? Now this insulated wire you spoke about, where you wrap the wire up in a little paper coil,—is that something that is not

open to use by other companies?

A. The dry-core insulated wire, if there were patents on it, have expired and anyone can manufacture it who has the facilities, but this is true,—that the modern telephone cables, the larger sized, can be made only by the Western Electric Company, because they are the only ones who know how to make them.

Q. Is there any different principle between the larger ones and

the other ones?

A. Yes, sir,—there is a different grade of paper used and a different process of laying up the wires, and I think I am correct in saying that you can't go on the market today and get 1,200-pair cable wire anywhere except from the Western Electric Company.

722 Q. But there is nothing to prevent other companies from manufacturing the 1,200-pair wire cable if they wish to?

A. Well, they don't know how to do so.

Q. Well, they can take one of yours and examine it, and most any skilled man can take a thing and see how it is put together and get a pretty good idea as to how to make it?

A. All I can say is-I don't think you can obtain from any manu-

facturer today 1,200-pair cable which would be satisfactory.

Q. Are they being used very generally today,-1,200-pair cables? A. They are coming into use quite rapidly. They are in use, I might say, fairly generally.

Q. When was it first manufactured?

A. I couldn't tell you. Q. Quite recently?

A. Three or four years ago, probably; perhaps longer than that.
Q. And you say they don't know how, and yet the whole pro-When they get one of these cables they cess is open to the eves? can see how it is manufactured and duplicate it, can't they?

A. They can see the cable; yes, I suppose they could if they wanted to do it,—they could probably manufacture them; but as a matter of fact I don't think they do, because I know of firms who have made inquiries from them for cables of that sort and have been told that they could not get them.

Q. Any independent company could buy them from the Western

Electric Coompany?

A. Yes, sir, they can,-if they know how to use them, and 723 know how to order them.-but most of them don't know about them and don't avail themselves of them.

Q. Now, you spoke-

There are many of these improvements, Mr. A. (Interrupting.) Howard, which, after they are made, are perhaps not patentable, and they are open to the world if the world wants to use them; but that doesn't lessen the value to us. We want to get the advantages, and we set our engineers to work and they discover an idea and give it to us,-and if others use it, it is all right, it does not lessen its value to As a matter of fact, we know about it in advance, and in most cases the independent and other companies con't use these improvements until years afterwards, because they don't know about it.

Q. But each year you are paying a price for those things that are open to the world, where you get no particular benefit from it if anybody can go ahead and use the products?

A. Well, if we can get cable at a one-third less price, for example, than we used to pay for it, it's an advantage to us; and if, after we have used that cable five or six years, it then becomes generally known that it is a good thing, and that leads others to try to get it,that doesn't lessen its value to us.

Q. You go right on paying for it each year, out of gratitude for

what they have done?

A. No, they are continually at work and ideas are being developed. We are just on the eve of another big cable which

is coming, and which we are going to get at the end of this year, and which is going to make a big reduction in the cost of cable, and I don't think that process is patentable, and others can get it, but they won't know about it. There is no particular secrecy about it and it is not being shut up in a book; but then, we are not advertising it. And we are getting the advantage of that improvement and are paying for the work necessary in order to make that improvement,-but that doesn't lessen the advantage to us because it doesn't happen to be patentable.

Q. Well, it is pretty good business to kinda' hold back and let the

others do the developing?

A. No, I think not.

Q. How about this alley? Is there anything about the alloy that

you are protected in?

A. No. I don't think that it is patentable, and they can but the cable if they want to buy it. As a matter of fact, it is true that most of the independent companies have been using pure lead sheath cable recently, and I guess they still are. In fact, they don't know about this.

Q. The matter of allows of material is not a matter of new ideas? A. Any man who studies the question of alloys, of course, knows

the different results that can be obtained in alloys.

Q. That has been going on for years?

A. Yes, sir,-certainly, the question of alloys has been 725 studied for years.

Q. Now, you mentioned these beetles; who discovered the beetles?

A. I don't know.

Q. Did the American Tel. & Tel. Company discover it?

A. I don't suppose they did.

Q. That was done by the men out in the field, who came in con-

tact with and had trouble with the cable, wasn't it?

A. I don't know whether they discovered it or not. It was rather interesting. We had those troubles occurring down here and the cable men didn't know what caused the holes, and there was, perhaps, quite a spirited controversy between them regarding what was

causing the holes, and they finally got the beetle idea.

Q. Now, after you discovered that this beetle was drilling the holes in your lead cable, don't you know that around nearly every university and around the Government's experimental stations there are quite a number of intense gentlemen, with tortise shell spectacles and long hair, that will just turn somersaults to get that beetle bug, and that it would afford them an interesting study in entomology,—lots of men that would just take that thing up as the average avaricious man would take up a gold nugget in a mountain?

A. I have no doubt but that there are a great many people who

would be interested in these bugs.

Q. And that it will mean more to him than money, many of these men around universities and around the experimental stations of the United States Government? Now, don't you know that they would get as busy as they can get, trying to

find out all about that bug?

A. I have no doubt but that they would be very much interested in the bug, but I don't think anyone who is in a position to conduct and direct a study on the relation of that bug to telephone cables, and how you could prevent the bug eating the telephone cables, is as

competent and qualified to do so as telephone men.

Q. Is there anything about a cable, and the bugs eating it,—is there any man who is more and who is better qualified to find out about this than some of these intense professors, who don't care anything about money and don't care anything much about it so long as they have something like that to fool with?

A. I have no doubt but that there are many professors in col-

leges

727

Q. (Interrupting.) And who wouldn't hardly sleep until they found out all about it?

A. I have no doubt but that there are a great many men that

would like to study that bug.

Q. Now, having found out about this bug, and having determined that it is due to a certain method by which the cable is hung, and having arrived at a certain conclusion in regard to a given fact,—that he must have a foothold to put his drill in,—you are going to experiment now on some method of hanging the cable, are you?—or are you going to have the American Tel. & Tel. Company tell you how to hang the cable so that the bugs can't get on the cable?

A. They are going to carry the study a little further and see whether or not an economical method can be found by which the trouble can be avoided. It appears, it may be that

the result of their study will be that they can find a method of hanging cables wh-reby the bugs can't get a foot-hold, but that the method will be so expensive that it won't be worth while.

Q. Why do they keep fooling with the cable if it don't prevent the

bug from drilling the cable?

A. They will conduct their study far enough to feel reasonably sure that they have the answer as to whether anything can be done

or not, or if it is worth while.

Q. It was a rather fortunate thing for your Company that you discovered this bug in order to show something specific that they had been working on in regard to the cable in use in Houston?

A. I thought it was very interesting.

Q. But that is really the only specific thing you have pointed out. that I can see, that they have been working on in this community,are these bugs working on the lead cable?

A. Why, I mentioned a lot of other things.

Q. You mentioned a lot of general things that apply generally? A. No,—I mentioned a lot og things that apply specifically to Houston, more specifically to Houston than the bugs. Galveston, Beaumont, Brownsville and all along the Coast and these other things were in Houston.

Q. Now, you have undertaken to figure out for us, in a way, the benefits that we get from this service and you have put in here—"Improvements of Cables by use of Fine Wire"; When 728 was that done? You have charged us \$104,000.00 for that

item.

A. We have been availing ourselves of that improvement right along, ever since we began using the cable. I don't remember the exact date we began to use the cable, but it was something like 1904 or 1905 before we had it to any extent in the plant, and we didn't have very much then.

Q. And everybody then has—everybody since then has been able

to buy this fine-waire cable, have they not?

A. If they know how to use it and where to use it, they could have. As a matter of fact, most of the independent companies during this period have not been using it. I have examined a good many independent plants, and in very few that I have known of have I found any considerable quantity of this cable.

Q. They may have concluded that it doesn't do the work you claim for it?

A. No, they didn't know about it.

Q. What is there about fine wire that an ordinary intelligent engineer wouldn't find out,-wouldn't know? What is the principle involved that brings about this saving?

A. Well, there is less copper used and you are enabled to use a

larger number of wires inside of the same sheath.

Q. Well, to a laymen, much less an engineer, isn't it evident that the thinner you make a wire, the less copper you will use? 729 And the thinner you make a wire, the more you can bind up in a sheath of a certain size?

A. Yes, if you can make it and make it so that you can talk over

it and know that you are making it so you can talk over it.

Q. What particular mystery is there, then, about making it to an

average intelligent mechanic?

A. The entire design of the cable is a very intricate engineering composition,—every detail of design,—a special grade of paper has to be used, and for a long time it was impossible to get it in this country.

Q. Well, they can examine it and tell the kind of paper?

A. They can see it but don't know where they make it or where to get it,—and then, you have got to twist the wires in a certain way. The whole question of cable design is extremely involved and a complicated one.

Q. Independent companies can buy all they want to from the

Western Electric Company?

A. They can buy it, and probably do. I have examined however, a good many independent plants, and in all of them the use of this cable was very limited and many didn't have it at all, and the only conclusion I could draw was that they did not know about it.

Q. You are setting up here—"Improvement in Cables by use of Fine Wire,"—which was invented about fifteen years ago, and that's been on the market subject to purchase by anybody that wants to

buy it, and you set it up here as a saving of \$104,000.00, and in No. 2, you set up,—"Duct Saving, due to Improvement in Cables.—\$17,300."?

A. Yes, sir.

Q. In what particular period,—how was that saving brought about?

A. Well, we have fewer cables because we have larger cables, and that means that we have fewer ducts and we save in ducts.

Q. Those simple ducts are subject to manufacture by anybody who wants to manufacture them, and are subject to purchase by any independent companies who want to purchase them?

A. Yes, sir.

Q. New alloy for cable sheaths,—I think you said the same thing applies to that?

A. Yes, sir.

Q. Now, No. 4,—"Improvement in Switch Board Coils,"—when

was that improvement made?

A. Oh, alloy for cable sheaths, four or five years ago and switch board cords,—these new switch board cords are about four years old,—I don't know the exact date, but relatively recent.

Q. Well, that one you had here yesterdau, you stated was more, what did you call it,—it would twist more, or was more flexible?

A. Yes, sir, the life of the material in it is greater because it won't break.

Q. Is that protected by any patent?

A. I imagine it is. I can't swear to it, but I think there is a patent on the switch board cords,—I think the Western Electric Company has a patent on it.

Q. And they are subject to purchase by anybody?

A. Yes, sir, the Western Electric Company will sell them, the

point I am making is this,—that these inventions were not available to anyone until these engineers devised the methods.

Q. But now they are available to everybody?

A. Available to everybody who knows how to use them and how to avail themselves of them; but it is true that they aren't used universally, or to any large extent in the plants I have inspected.

Mr. Duls: This has got on it: "Western Electric Company Cord 47,—Cord patented November 2nd, 1914, December 14th, 1914."

A. Yes, I thought it was patented, and that agrees about with my idea.

(By Mr. Howard:)

Q. What principle is there about that that is subject to patent?

A. I don't know what. The patent may cover one, ten or fifteen features in it; it may cover the manufacture of the tinsel, may cover that wrapping, and probably does cover everything that it could cover.

732 Q. There are other cords similar to it, and it is just a question of choice as to which is regarded as the best by the man

that's testing it or using it?

A. You can get switch board cords from many manufacturers, but I don't think that you could get any that has the life of the Western Electric cord.

Q. Mr. Pennell, while you are standardizing things a great deal, and working all the time,—making all of these inventions and improving the art,—how do you account for the fact that your operating expenses, and particularly your traffic expenses, are still terrific?

A. They would have been a good deal higher if we had not kept them down by reason of the improvements in the art,—the reason that expenses are high, Mr. Howard, is because we have to pay

more for labor.

Q. Yes, you have to pay more for labor, it is true,—but even before the high price of labor, and when things were normal, your traffic expenses or operating expenses at all times seemed to be very high, and you haven't, in all of this, apparently brought about anything that made any radical change in the expense of this service.

A. Well, I made some studies of Houston some time ago, and I think it showed,—I haven't got them here and I don't know the details of the figures—that the cost per traffic unit and giving service had decreased rather consistently in Houston until the war came on, and everything went up. The prices of labor have increased

733 several hundred per cent, and that's a bit outstanding feature.

Q. I am speaking of prior to the war—the Company

claims they were showing no earnings.

A. Well, they were using economy,—and the rates were not high

enough.

Q. Well, in some way you had been operating under a voluntary rate and you never sought any change of rate until up—until two or three years ago—

Mr. D. A. Frank: What difference would that make?

Mr. Howard: That, after all, is what we are trying to get at-is

what this service-

Mr. D. A. Frank (interrupting): Suppose we had been trying—had been giving free service—service free of charge for the last twenty years, what difference would that make in this rate case?

(By Mr. Howard:)

Q. Now, you have claimed all these benefits of all this research work, and you would have us believe that you have got a Staff up there working day and night for the good of the concern, trying to reduce expenses, and I asked him why it is, with all of that work and all of that research, why they didn't reduce traffic and operating

expenses.

A. I think if you will—if I could have the records here—
my recollection is that traffic expenses have been reduced for
the units of work until the big rates—the big rise in prices, on account of the war conditions, and I do know that the plant costs have
been decreased very materially on account of these improvements.
We have difficulty now, as the prices of all labor and material have
gone out of sight and it is impossible to make any improvements in
the art, and I think you will find any increase in telephone rates,
which we are asking,—you will find the general increases in telephone rates throughtout the country have not been anything like
the increase in the cost of living throughout the country.

Q. You claim that prior to the war and the advant of these high prices that your operating expenses and particularly your traffic ex-

penses per station, had been reduced?

A. I said per unit of work. The calling rate per station may vary so you can't tell anything about the traffic expense per station.

A. Yes,—that's my understanding from a study I made some

time ago.

Q. Mr. Pennell, turn for a minute to this instrument service—these induction coils, receivers and transmitters. You never made any study as to what it costs to manufacture these articles?

A. No, sir, I don't know what it costs to manufacture them.

Q. They are a standard article,—are they not? What I mean by that, is being manufactured by machinery in great quantities?

A. They are.

Q. Now, I wish you would point out, Mr. Pennell, some definite specific service that was rendered by the American Telephone and Telegraph Company during the years 1919 and 1918, for the Houston Exchange, aside from the use of their instruments.

A. The services, in relation to the saving due to these fine-wire cables and cable sheaths and switch board cords are conditions, in a sense, that we are using materials that are made under these devices right along in our plant and we are getting the benefits of this service in our plant whenever we buy the cable.

Q. Well, you are buying unprotected articles, are you?

A. It doesn't make any difference; we develop them and spent the money for the developments,—spent the money for developing

them, and are paying for them.

Q. They are not selling you any license rights. I am talking to you about something that is peculiar to Houston, that if you were operating under license rights or patent rights, and in consideration of this great sum that they paid, that they were getting their license or patent charges, why, I could see where they were getting something for it, but in an article that's unprotected and open to the world, I don't see that. Now, I am speaking of some specific service,—something that the engineers did for this plant in 1918 and 1919—some specific engineering work.

736 A. This is specific,—if you wish me to give you some

specific service, I will do so.

Q. We differ as to the meaning of "specific", Mr. Pennell.

Mr. Duls: He has got an exhibit on it and you will find it among the list of work done in 1918 and 1919 by the General Staff.

A. They gave us advice in 1919. Do you want advice—do you want in 1919, too?

(By Mr. Howard:)

Q. 1918 and 1919.

A. They have given us advice in 1919 as to how we would install

automatic telephones in Houston.

Q. Did you install any? Why did you want that kind of advice? A. Well, we have to prepare ahead in planning our equipment; we have to make our plans now for several years ahead in making extensions to our manual boards and have to know what is coming in the way of automatics.

Q. What engineer was here and looked the thing over, and how

long was he here?

A. That advice was obtained, to a large extent, by trips to New York, and interviews which I have had, and other engineers in New York on the subject.

Q. Al-right. Now, what else?

Mr. Duls: What exhibit are you now looking at, Mr. Pennell? The exhibit I refer to is No. 162, also No. 161.

737 A. Well, take Exhibit No. 162.

(By Mr. Howard:)

Q. Before this great automatic—the automatic is really now in practical use in a great many places in the United States, isn't it?

A. It's in use. It isn't in use exclusively in any cities which you

might call cities of the first magnitude.

Q. The manufacturers are pretty familiar with that particular branch and have their engineers and designers and everything that's necessary in that regard, haven't they?

A. Well, in my opinion, the introduction of the automatic switchboard, especially as it relates to its introduction in exchanges like this exchange in Houston, has just emerged from what I would call

its lowest development stage.

Q. And the manufacturers of these automatic switch boards-of this automatic equipment,-know pretty well, don't they, how to make switch boards and how to install them?

A. All the problems haven't been worked out in installing the boards in towns like Houston,-that is, relating to the inter-connection with the manual boards in towns or cities like Houston.

Q. When you get ready to install a board here, the manufacturers will install the apparatus, will they not? They know how to install it?

A. Well, I don't know who will install it.

Q. Well, the manufacturers of switchboards install them, do they not?

A. Not always, no, sir.

Q. Well, that's their practice? A. To some extent.

738

Q. To a very great extent isn't it?

A. Well hardly. A great many boards are installed by the telephone companies themselves.

Q. Al- right. Besides the automatics, what is the next thing? A. They did a lot of work for us in connection with the telephone service at the cantonment.

Q. What service did they do for you? That was not a very complicated thing, to run a line out to tone of these cantonments?

A. Well, there were a lot of special services required, a special fire alarm service required in cantonments—the cantonments were built largely of wooden buildings and the army relied upon-to a large extent, upon the telephone for fire alarm, I mean rather, for a fire alarm system.

Q. You have standard books by the underwriters that prescribe

rules pretty much for those things?

A. No, I don't think the instructions cover advice of that sort—

that's what we call "Special Advice."

Q. What is there so mysterious or complicated about running a telephone line from Houston out to the cantonment here?

A. Camp Logan?

Q. Well, say Ellington Field.

A. Well, take Logan for example. You have a long telephone cable or line that has to be loaded.

Q. Well, take a man like yourself, wouldn't you know how to run a line of cable out to Camp Logan and to install the service? 739 A. I have had considerable telephone experience, but on a

loading problem, I would want to get some expert advice. loading problem is a technical problem which I would want advice May be you think I am not a competent engineer because I would want to get that advice-

Q. What I mean is that those things are expensive and cost money and while every man likes to consult with others, he never reaches the point where he knows it all. I am just asking you as such an 740

engineer as you are, if there is anything staggering or appalling to run a telephone line out to Camp Logan and install a distributing

system around there in those wooden buildings?

A. The cable to Camp Logan is a long cable and requires loading. probably means loading on which matter of fact we get the advice of the engineering Staff; and then, there is the problem of how does the Government want this all done, and they took the matter up through their Signal Corps; they wanted to take it up with some central body, they took it up with our engineering Staff—this Staff I am talking about in New York and they did that work for us as to the general arrangement and passed it on to us. They did that work for us.

Q. That was in what year?

A. I believe in 19-7 or 1918—1918, I guess.

Q. You leave after deducting the instrument service something like fourteen or fifteen thousand dollars, and now, you have got those two instances of specific service-

A. (Interrupting.) I can give you a lot more.

Q. Give them to us, then.

A. We have the plans under way for a branch office in Houston in the Harrisburg District and that matter was taken up with the General Staff, and questions concerning the building and location of the office discussed with them.

Q. Why discuss it with them? What is there about a problem like that that requires the bringing in another force of engineers?

A. It is a condition that has to do with the fundamental development of the telephone system, and I felt it was desirable to get their expert advice.

Q. They came down and looked it over?

- A. I don't know. It may have been handled by correspondence— I think it was.
- Q. They wrote you a letter or two and told you how to do it? Well, what else?

A. Didn't tell me how to do it, but gave me their advice.

Q. You wanted to know how to do it, didn't you, Mr. Pennell? A. During those years there have been some visits by the telephone men to Houston. Mr. Walker—
Q. (Interrupting.) When did he come here—what did he do

while here and how long did he stay?

A. Mr. Walker was here in 1918. I have forgotten how long he I think he was here two or three days.

Mr. Duls: That's on Page 10 of your Exhibit No. 161, Mr. 741 Pennell.

A. Yes, Mr. Walker was here in 1916,—the fall of 1917, he was here for several days.

Q. That's the last time any of them paid us a visit?

A. No, Mr. Christian was here looking over service conditions.

Q. Is he going to testify?

A. No, sir, he is not going to testify.

Redirect examination.

(Questions by Mr. Duls:)

- Q. Mr. Pennell, that General Staff is always engaged in research and development continuously?
 - A. Yes.

Q. Now, it has made inventions in the past and has given them to the Southwestern Company?

A. Yes.

Q. Suppose the General Staff makes further inventions, will they

also be received by the Southwestern Company?

A. They will be received in the same way. I have kept in pretty close touch with the Engineers, and they have more coming in the next few years than I have ever known of before, and apparantly they have reached the point in the development where it is going pretty rapidly.

Q. All these things that Mr. Howard has asked you about, that he says have been in the past and that you are not receiving the bene-

fit of today, were inventions in what period of time, just ap-

742 proximately?

A. Well, all these things I evaluated have been within the last fifteen years, many of them in the last four or five years, and the savings from them are continuous; as long as we put that material in our plant the savings continues.

Q. The point I wish to bring out is that you are paying for services rendered by the General Staff, the benefits of which you have

received and of which you expect to receive the benefits?

A. Exactly.

Q. Now, this copper wire service, this hard-drawn copper wire, is only one example of this service?

A. Yes, I mentioned that as historical for the interest connected

with it.

Q. Can you put a money value on all these services rendered for the General Staff, for example, hard-drawn copper wire, and say by any possible way that it would be worth \$165,347.07 to the Southwestern Company?

A. I haven't tried, and you could not very well do so; one of these things is of great value, but it is difficult to make an estimate of what it is worth, not that it isn't of great value, but you have no

basis of estimating it.

Q. Besides having the use of that hard-drawn copper wire cable, the Southwestern Company has used the other appliances that go along with it, has it or not?

A. Yes, it has cable terminals, cable rings and a lot of other

devices.

Q. In your judgment, it is or not, the reason why the independent people do not use that, as you have testified, due to the fact that they do not have the use of all those other appliances that go along with the use of that fine wire cable?

A. I think that's probably one reason why the use of the fine wire

cable and of the accessories isn't so general in the independent companies as in the Bell Companies, is because they don't have—they do not have our specifications and our general engineering information regarding these developments—they don't know about them, in other words.

Q. Now, Mr. Howard asked you whether or not you couldn't buy this fine wire cable and cable sheaths and switchboards, and other things of that sort from independent people, or whether you couldn't buy them in the open market. Now, assuming that you could do that, could you buy them as cheaply as you are now buying them from the Western Electric Company?

A. No, they would cost you more if you bought them in the open market than if you bought from the Western Electric Company.

Q. You didn't hear Mr. Cox testify as to the prices charged the Southwestern Company, and the prices charged the independent companies for the same kind of telephone apparatus?

A. I think I heard that—at least, I heard part of it. mony merely confirmed what I knew as true from my experience

in the business.

Q. Now, the Western Electric Company manufacture a great deal of this material, particularly switch boards. Do they manufacture

them on the specifications prepared by the General Staff? 744 And the General Staff is giving its services to the Associated Companies?

Q. Did you testify or did you not, that the General Staff was working on the problem of making the automatic telephone practical

for an exchange the size of Houston?

A. Yes, they are working on that problem. One of the biggest parts of the problem is the question of connecting the manual and automatic boards together so you can give satisfactory interchange of service.

Q. Mr. Howard asked you whether the research carried on by the General Staff was economical research. If the American Company did not carry on that development and research work the Southwestern Company would have to carry it on?

A. Or else not have the advantage of the results of it.

Q. And you testified that, in your judgment, that is the Southwestern Company did carry on that work it would cost them more than it is costing now?

A. Yes.

Q. Just to enlighten Mr. Howard, over here, this duplex cable that is an arrangement out of which you can get the so-called phantom circuits, and as I understand it, you have two metallic circuits and over which ordinarily two telephone conversations could be carried on, but by this device you obtain from those two circuits another circuit?

A. Yes. Q. Without stringing additional wire?

A. Yes, sir.

Q. If you get an additional telephone circuit in that manner is it an economy, or not an economy?

A. It is an economy.

Q. What is the purpose of the General Staff in carrying on its experiments with reference to the cable bug?

A. Trying to devise some method of eliminating the trouble.

Q. So that the service can be improved?

A. Yes

Q. And not be interfered with by this bug?

A Yes

Q. So that the service will not be interrupted by the bug?

A. Yes.

Recross-examination.

(Questions by Mr. Howard:)

Q. Mr. Pennell, do you know how much the American Tel. & Tel. Company receives in the aggregate from this 4½% payment?

A. I haven't any idea.

746 Mr. Benjamin T. McBurney, a witness for the plaintiff, after being duly sworn, testified as follows, to wit:

Direct examination:

My name is Benjamin T. McBurney. I was born in Alexandria, Virginia. I am in the telephone business, and have been engaged in that business since 1910. I am now Vice-President and Assistant General Manager of the Cincinnati Suburban Bell Telephone Company. My training in the telephone business has been as an accountant primarily, and my present position is that of Vice-President and Assistant General Manager of the Cincinnati Suburban Bell Telephone Company. The headquarters of the Company are at Cincinnati, Ohio, and it operates in Cincinnati, Norwood and Hamilton, Ohio, and in Covington and Newport, Kentucky, and the vicinity; and, roughly, I should say it covers about a radius of fifty miles of Cincinnati. I live in Covington, which is near Cincinnati.

Our company is an associated Bell Company; the amount of our capital stock is \$10,095,300.00 and we have no bonds outstanding. The control of the stock rests with local stock-holders; probably Mr. Kilgore and his associates control it. The American Telephone & Telegraph Company has a minority interest in the company, amounting to approximately 30%, and I should say that practically all the balance of the stock nearly 70% is owned locally. The American Telephone and Telegraph Company at no time has ever held more than 30% of our stock. It has held 30% ever since the

inception of the company; practically at the time that we entered into this so-called license agreement. I do not know specifically when that was; I think it was along about 1880. The American Telephone and Telegraph Company, has never controlled our Company, and does not control it now. We have a board

of directors of eight people, and have an executive committee composed of four members of the Board. The Board of Directors directs the affairs of our Company. Our Company has always been controlled by the Board of Directors. The American Telephone and Telegraph Company, have representation on our Board of Directors: they have one director on there. The present Director is Mr. H. B. Thayer, who was just elected at the last annual meeting in February. Prior to that time it was Mr. Theodore N. Vail. No American Telephone & Telegraph Company Director has ever attended one of the meetings of the Board. The American Telephone and Telegraph Company, through Mr. Vail or Mr. Thayer, or any resolutions, has ever sent any directions to us, as to what to do, nor have they ever dictated to us, as to how to run our company; the Board is absolutely independent, the Bell Company—no other Bell Company has any representative on our Board of Directors.

Q. Has any Director of the American Telephone & Telegraph Company, or a Director of your Company that's appointed by the American Telephone & Telegraph Company, ever voted in any meeting of the Board of Directors of your Company?

A. No, sir. Q. Then to what extent, Mr. McBurney, has the American Telephone & Telegraph Company, or its Associated Companies, ever been represented on your Board of Directors?

A. Only to a nominal extent, as I have related; that is 748 one Director, who has never attended a meeting and not actively participated in the affaird of the Company in any

degree

Q. Well, have they participated in any other way than as outlined by you through a representative on the Board of Directors?

A. No, sir. Q. Have you a license contract with the American Telephone & Telegraph Company?

A. Yes, sir, we have the so-called license agreement.

Q. And under that agreement do you make a payment to the American Telephone & Telegraph Company?

A. We make a payment of $4\frac{1}{2}\%$ of our gross earnings.

To whom do you pay that?

A. That is payable, I think, to the American Bell Telephone Company.

Q. It is payable to the American Bell Telephone Company?

A. Yes, sir, and it probably finds its way into the American Telephone & Telegraph Company finally.

Q. Well, out of what receipts does your Company pay this 4½% A. Well, it pays it out of our gross receipts; specifically, it is 4½% of the exchange service revenues, the private lines, public pay stations, and message tools, less uncollectibles.

Q. Did you include public paystations? Yes, sir, I included public pay stations.

Q. Ordinarily, it's your exchange revenue and toll line revenue?

A. Yes, sir.

Q. Where does your Company make the payment?

A. We make the payment in return for certain services rendered by the American Telephone & Telegraph Company under the 41/2% contract. 749

Q. You have heard the testimony given in another case,

given by Mr. Rhodes and Mr. Estabrook in another case?

A. Yes, sir, in the Fort Worth case.

Q. Well, in so far as the general services mentioned by Mr. Rhodes and Mr. Estabrook are concerned, does your Company receive those general services in return for the payment of 41/2% of its gross receipts?

A. Yes, sir, we receive those general services and I think we have availed ourselves of practically all of them, excepting financing. We

have always been able to finance our own requirements.

Q. Do you get the instruments that the Associated Company gets

here at Houston?

A. Yes, sir, we got the receivers, transmitters and induction coils, with a 3% over-stock, and the American Telephone & Telegraph Company, under the license agreement, repairs the instruments free of charge and replace them with new instruments, that is, with new improved types, as the latter are developed.

Q. Do you get the induction coils also?
A. Yes, sir.
Q. Transmitters, receivers and induction coils?

Q. If anything new in the way of new equipment comes out in the way of transmitters, receivers and induction coils, are you entitled to those?

A. Yes, sir, we simply ask for them and they are always forth-

coming.

Q. Do you get anything else except instruments?

A. Yes, sir, we get certain services as distinguished from

750 the instruments.

Q. What other service do you get, Mr. McBurney, that you can detail? Just go ahead and detail the services that you get from

the American Company.

A. Well, there are various services that we get from the American Company outside of what I have said with respect to instruments. and they might be said to be general and special; they cover every phase of the telephone business that is patent,-engineering, plant, commercial, accounting, financial, legal matters and discussions and, as I say practically

Q. (Interrupting.) Insurance?

A. Insurance, building operations, and practically every phase of the telephone businesss. Now, this information comes, as a general thing there is a constant flow from each particular Department of the American Telephone & Telegraph Company of this information. For example, the Legal Department sends out daily leaflets of decisions of the Courts and Commissions that are of interest to telephone companies; I think they publish a monthly digest of decisions. The Accounting Department gets out what they call standard

routines, which are the most efficient methods of handling the clerical processes of a particular subject of the telephone game,—as, for example, time records and pay rolls, handling of plant supplies or accounts for sub-stations equipment. We also receive an annual audit from the Accounting Department of the American Telephone & Telegraph Company, and we attach that audit to our Stockholders' Report; we value that very highly. As to the engineering phases of it, I assume that Mr. Estabrook and Mr. Rhodes have testified in this case practically the same as they did in the Forth Worth case.

751 Q. They did.

A. Well, I can't really add anything to that testimony.

Q. You receive the services mentioned by them?

A. Yes, sir. Now, to give you a general picture of the general information that I have in mind is this: That any time any question comes up in our business that we have any doubts on, and that we want further information on, we simply communicate with New York. I will give you a specific instance: Just a month or so ago we were looking into this question of machine switching, or automatic equipment, so-called. Two of our engineers went on to New York to the Chief Engineer's office; they were accorded every facility there. In fact, two men were assigned to them and they worked with them for a matter of a couple of weeks, and when they left Mr. Gherardi, the Engineer, told them that when their study had proceeded sufficiently he would be very glad to send one of his own men out on the ground to help them out. Now, this last week Mr. Allen, who, I think, is of Mr. Estabrook's staff, spent a couple of days with our Traffic Superintendent and came up to my office on matters of operating practice. Mr. Estabrook himself has been there a number We have had visits within the past year from Mr. Mandel and Mr. Atwater, of the Commercial Engineer's office. I had occasion myself, the last time I was in New York, to see Mr. Gherardi on the same question of machine switching, and, generally speaking, we simply regard the General Staff as the repository of the accumulated knowledge and experience of the Bell System in all phases of the business, and if we want to know anything about any phase of the business, we go to them, and if we go to them they give us the information gen-rally.

752 Q. And you don't pay anything for it?

A. No, sir, except the 41/2%.

Q. Who is Mr. Gherardi?

A. He is the Chief Engineer of the American Telephone & Telegraph Company.

Q. Does your Company pay any dividends?

A. Yes, sir.

Q. How long has it been paying dividends?

A. Well, I don't know just how long it has been paying dividends. We pay 8% dividends at the present time.

Q. Eight per cent?

A. Yes sir.

Q. How long have you been paying 8% dividends?

A. Prior to January 1st, 1918, for approximately ten years we paid 10% and prior to that time, 8%.

Q. So that you have been paying 8% or 10% for years?

A. Yes, sir. Q. Dividends?

A. Yes, sir.

Q. In addition to that you set aside any reserves for replacements? A. Yes, sir, we set aside what we consider to be a reasonable reserve for depreciation.

You say that your capitol stock outstanding is \$1,095,000.00?

Q. You say that your cap.
A. Yes sir,—and three hundred. Q. What is the approximate amount of your reserve for replacements, or your reserve for depreciation?

A. About \$2,931,000.00.

Q. On the basis of capital stock outstanding, it is about 30%?

A. Yes, sir.

Q. Because of the fact that you have been paying as high as 10% up to a couple of years ago and 8% now,-has that enabled you to finance yourselves individually?

A. That has been the reason that we could.

Q. That is the reason that you don't have to apply to the American Telephone & Telegraph Company for financial assistance?

753

A. Yes, sir. & That's true, of cour-?

A. Our stock is quoted at a premium on the Exchange: with a par value of 50 it is quoted at 70.

Q. That would be the same as 140?

A. 140 on 100 par basis.

Q. How could you pay 8% and 10%, Mr. McBurney? Did you

have rates that were sufficient to pay all expenses and-

- A. (Interrupting.) Yes, our rates have provided for operating expenses and enabled us to set aside what we consider a ressonable reserve for depreciation, and also pay a reasonable rate of return to our stockholders.
- Q. I believe that you stated you were Vice-President of the Concinnati Suburban Bell Telephone Company?

A. Yes, sir.

Q. Well, as an officer and executive of your Company, what is your judgment as to whether or not the use of the property and the services rendered by the American Telephone & Telegraph Company under the so-called license agreement are worth the money being paid by your Company for such use?

A. Well, I consider the contract a very advantageous one for the Cincinnati Company. I think it is really worth more than we pay

for it, and it is really indispensable, because the services we 754 obtain from the American Telephone & Telegraph Company could not be obtained from nay other source.

Q. Why do you keep on paying 4½%?

- A. Well, it is a good thing and we want to continue paying it.
- Q. It has always proven advantageous? A. It has always proven advantageous.

· Q. If your Company did not have the arrangement and the American Company was willing to make the arrangement, state whether or not you think it would be a sound business proposition to enter into the contract?

A. I most emphatically do.

Q. Are you familiar with the payment made by other Associated Companies in the United States, where the stock is controlled by the American Telephone & Telegraph Company?

A. I understand that it is similar to the one that we are making.

that is, 41/2 % of the gross earnings.

Q. That is, the arrangement is just the same as that with your Company?

A. Yes, sir.

Q. And the arrangement is identical, as far as you know?

A. Yes, sir: of course, the use made of the arrangement by the different Companies may, perhaps, vary. As I say, I think we utilize all of the various services, with the exception of financing.

Q. Are you familiar with the property and services which the

American Company furnishes other Associated Companies?

A. Generally, yes, sir.

Q. How does the property and service which the American Company furnishes the Associated Companies compare with what is furnished your Company?

A. It is the same.

755 Q. Do you know whether the original license contract with your Company provided for the American Company to buy any additional stock in your Company at any future time?

A. Yes, they have the same right as any other stockholder,—that

is, to subscriber to a proportionate share of any new issue.

Q. Does the American Company have the right to purchase all of

A. Only its proportionate share.

Q. It can only purchase 30% without going in the open market?

A. Yes, sir.

Q. They never have had more than 30% of your stock?

A. No, sir, they never had more than 30%. Q. When you undertake to build buildings do you get any services

A. Well, whenever we undertake to build a new exchange, it has been our general practice heretofore for the Company's architect, Mr. Hake, to make a trip to New York and get their ideas on the subject. We did that when we built our new general office building in 1914. We did that a couple of years ago when we erected our new Woodman Exchange, and only recently Mr. Hake was in New York in connection with the new exchange that will house this automatic equipment that I spoke of previously in my testimony, and he has always gotten some very good ideas there; and with respect to the central office equipment, why we have always, when we put in a new exchange, asked one of the American Telephone & Telegraph Company's engineers to come out and look over our plans and tell us what the latest developments of the art were.

Q. You have some engineers of your own, haven't you?

A. Oh. ves! Q. Why don't you have your engineers to do all this work and save this 41/2 %?

A. Well, we haven't the person-ell in a small company, like ours, to go into extensive development and research work like that; we are not financially able to maintein such an organization, if we had the person-ell; then, if we did it, we could not get the accumulated experience of all the Bell companies.

Q. So this service could not be performed by you for yourself?

756

Q. Even if you had the money?

A. No. sir.

Q. What were the total gross receipts of your Company last year?

A. \$4,077,014.00.

Q. What were the total amount paid to the American Telephone & Telegraph Company under the license contract?

A. \$176,896.75.

Q. How many stations has your Company?

A. 104,500, approximately.

Q. The American Telephone Company furnishes the instruments for all those stations?

A. Yes, sir.

Q. What is that instrument service worth, in your judgment?

A. I haven't made any calculations recently on the value of that instrument service. We made a study some time ago and the best of my recollection is, we figured that the instrument service, itself, was worth in the neighborhood of a dollar.

Q. A dollar a station?

A. A dollar a station, but I won't be positive about that because, as I say, that was made some time ago.

Q. You say the total amount paid was \$176,000.00? A. Yes, sir.

Q. And the total number of stations 104,000?

757 A. 104,500.

Q. So you are paying \$72,000.00 a year over and above the instrument service for that other service?

A. Yes, sir.

Q. Do you feel like you are getting your money's worth?

A. Yes, sir, most assuredly.

Q. Even without the financial services?

A. Yes, sir.

Q. Do you have a contract with the Western Electric Company, like the other Associated Companies have?

A. Yes, we have what is known as the standard supply contract.

Q. Do you feel that that is advantageous to you?

A. We entered into that contract on September 1st, 1913, and I am rather familiar with it because, at that time, I had charge of the direction of the contracts, so to speak, and the result of that was, in the first year we cut supply expenses, which is the cost of ware-housing and handling supplies, exactly in half; as I recall it, we 758

figured that we saved at the end of the first year, under the operation of the supply contract on account of reduction in material costs to us, in the neighborhood of \$35,000.00, and also reduction in prices of material bought from the Western Electric Company, because we got it under more favorable prices under the supply contract than theretofore.

Q. That benefit has continued from year to year?

A. Yes, sir.

Q. So you figure on past experience that about \$35,000.00 is saved in that respect alone?

A. Yes, sir.

Q. Have you ever had the idea that the Western Electric contract was a contract that was put over on you by the American Company in order to make additional dividends?

A. No, sir, we entered into the contract absolutely on our

own volition.

Q. Are you free to get it any time you want to?

A. We are free to get it any time we want to, but as a matter of fact, we sometimes make our purchases outside if we feel we get better prices.

Cross-examination.

Questions by Mr. Howard:

Q. The American Tel. & Tel. Company takes out of the earnings of your Company each year \$176,000.00?

A. We pay them for certain services around \$176,000.00 per

annum.

Q. And you consider and feel that you are getting your money's worth?

- Q. You say that you figure that the induction coils, receivers and transmitters are worth a dollar a year to you? Just enlighten us a little bit on it.
- A. I said at the time that I was not familiar with it, but that the best of my recollection,—this study was made several years ago.

 Q. You are the manager of the Company?

 A. Yes, sir.

Q. And you are interested in what you get for your money?

A. Sure.

Q. Well, let's get down to the dollar a year for these instruments. Have you ever concerned yourself about what it costs to manufacture them?

A. No, sir, I have not.
Q. You weren't concerned in that at all?

A. I don't know.

Q. But you are paying a nice sum for them each year? Let's see why you did it. Now, what I understand the dollar 759 a year to be is the cost-

A. (Interrupting.) That is the best of my recollection of the figure that we arrived at in a study we conducted several years ago.

Q. All right, let's have as specific information as you can give.

A. Of course, I did not make the study myself.

Q. Who made it?
A. The Auditor of the Company.

Q. Of what Company?

A. The Cincinnati Suburban Bell Telephone Company.

Q. He reported to you?

A. Yes, sir.

Q. Were you interested enough to go into detail with him at all? A. Yes, sir.

Q. Well, let's see to what extent you went into detail,-how did you arrive at a dollar?

A. Well, a good deal of water has run past the mill since that

Q. I know, but this is quite an item,—you are paying out \$176,-000.00 a year.

A. Well, we considered, under such service, the cost of the instru-

ments on the open market.

Q. Well, what was the cost of the instruments upon the market? A. I can't approximate that now; I haven't that figure,—probably in the neighborhood of something over \$4.00, I would imagine.

Q. Incidentally, you judge something over \$4.00?

Mr. D. A. Frank: Five dollars and something, according to the testimony.

Q. Well, now, why \$4.00, Mr. McBurney? 760

A. That's my recollection. Q. Your recollection from what?

A. From the figures that were submitted at the time.

Q. Submitted at what time? A. When the study was made.

Q. And when was the study made?

A. Several years ago. Q. "Several,"—that's very indefinite,—a very indefinite expres-Can't you be more definite?

A. Probably, if I had known that I would be cross examined on it,

I could have recollected it exactly.

Q. We are trying to get some proportion of \$176,000.00 out of this amount, and we want to know. You can't be any more definite about the \$4.00?

A. No, sir.

Q. Did you concern yourself far enough to know if those instruments were protected by any kind of patents?

I understand the patent expired some time ago.

Q. Was there anything in that respect that prevented their use from any investigation of the question? Now, did you ever make any study of how much it cost the Western Electric Company to manufacture this little article.

A. No, sir, I did not.

Q. They are made up of a lot of little parts manufactured by machinery and manufactured very easily, are they not?

A. Well, that's not my information on the subject.

Q. That's not your information on the subject?

A. No, sir.

Q. Well, what is your information, and what investigation did you make to get your information?

761 A. Well, personally, I have never been through the Hawthorne Factory, or seen these detailed operations of making telephone instruments.

Q. And just along the standardized operation, where they are working so beautifully, and they want to charge you \$5.00 or \$4.00

for this little instrument—you think that's the thing to pay?

A. Oh! no.

Q. Well, what do you do? If my suggestion is not what you do,

tell me that you do do.

A. We understand that under the supply contract that we obtain telephone apparatus from the Western Electric Company at cost, plus a certain percentage, and in comparing prices that we have to pay for telephone apparatus from the Western Electric Company in judging the fairness of the price we make two comparisons—of the prices we have to pay for similar apparatus that we obtain from other sources, and, as I told you, our experience showed that in the first year of the operation of the contract that we made a material saving on the total purchase price of the total amount of supplies that we got from the Western Electric Company.

Q. When did you first make the arrangement?

A. September 1st, 1913.

Q. Where did you buy prior to that?

A. In part from the Western Electric Company and part from

other supply houses.

Q. Then the Western Electric Company was discriminating before you made this contract and was selling to you at a higher price than to the Associated Companies?

A. I wouldn't call it discrimination.

7.62 Q. What do you call it?

A. We were not enjoying the same favorable prices as we afterwards enjoyed after making the contract.

Q. You were paying 41/2% prior to that?

A. Oh! yes.

Q. Now, as the Manager of a telephone company, has it ever entered your mind to inquire, inasmuch as these things are not protected by any patents of any kind, why they don't sell them outright to the buyers—why they keep them there and set down an indefinite amount—an indefinite and uncertain amount of money each year? Why are they not selling them outright, just like they do the switch boards, these lead cables, and other equipment?

A. Personally, of course, I don't know the basis for the arrange-

ments they make.

Q. They are doing it and make you go ahead, and that's all right?
A. No, the particular advantage that we enjoy under it is that any time a new and improved type of apparatus is developed, all we have

to do is to ask the American Telephone & Telegraph Company for it and we get it, and our subscribers get the benefit of it.

Q. Well, any manufacturer manufacturing this new equipment

is perfectly willing to sell them?

A. Yes, sir, but immediately the question would come up as to the proper allowance for the old equipment, as, ordinarily, a telephone man wouldn't want to junk all of his apparatus, as it might be giving pretty nearly ss good service.

Q. Now, since 1913 what particular improvement has been made in the apparatus-in the induction coils, transmitters and receivers?

A. I am not an engineer and can not mention it specifically.

763 Mr. D. A. Frank: Why 1913?

Mr. Howard: He said that's when they made the contract.

(By Mr. Howard:)

Q. Can you tell me any particular improvement that you have called for and that you have availed yourself of since 1913?

A. Well, the only thing that I could say would be from a nontechnical standpoint. I understand that the existing apparatus has improved transmission qualities over that in 1913.

Q. In what way?

A. Transmission.

Q. In what way has it improved it?

A. In transmission,-in other words, you can hear more clearly and a greater distance.

Q. That's in Cincinnati?A. That's every place,—it is here.

Q. That you have got some general, vague idea that transmission has been improved. You are not getting any more from your subscribers on account of these improvements, are you?

A. No, sir.

764

Q. All right. Then, notwithstanding, we don't know anything about what the cost of these instruments would be, or what the cost to manufacture is, or how much the profit of the Western Electric Company is,—how much profit the Western Electric Company is making upon them, or any of these things, or what a fair return upon the cost of the investment would be,-we have guessed that they are worth a dollar apiece.

A. You have, perhaps.

Q. That's what I understood you to say.

A. Oh! no.

Q. Well, how do you get at a dollar,-you haven't been able to tell me in any way.

A. Well, if you will read the testimony of the stenographer, he can no doubt give you my exact words.

Q. Well, you know what they are. Let's have them again. A. You heard them and know pretty well what they were.

Q. Well, how do you arrive at the dollar,—I am asking you again. A. Well, as I stated before, it was a study made by our Company several years ago,—made by the Auditor of the Company, and to the best of my recollection, the figures showed that the services were worth approximately a dollar.

Q. You don't know how you arrived at it, and you can't give us

the detail of it?

A. I would have to have a very unusual mind to go back and take a haphazard occurrence in 1913 and remember every detail. Perhaps your idea of the function of an executive officer is somewhat—

Q. (Interrupting.) What is the chief function of an executive officer? To keep his operating expenses well under control and make his industry show a profit from the rendition of fair service to

the public, isn't it? That's the purpose of an executive?

A. Well, those are the results that we desire to obtain, but I will say that his functions were to set up the organization, to select the person-ell, to determine the officers of the Company, and to generally supervise the work. Now, the telephone business itself, is so complex, is so highly technical, that no one individual could have a knowledge of all departments,—he must select people in whom he has confidence.

Q. I understand, Mr. McBurney, that you came down here to enlighten us about the benefits, and to testify with reference to them. If you had not come, I would not have said anything about it, but you came here to tell us about the great advantages of this contract, and my questions are all bearing upon that question, as to seeing whether you are right or not. As I said before, you might not be right, and we can't get any definite information as to the value of these induction coils, receivers and transmitters, but having that testimony—

A. (Interrupting.) In any event, I would not set my particular testimony up against specific technical testimony, it it has been

given.

766

Q. Well, even if we accept the figure that you suggest, that leaves \$72,000.00 that you paid out last year. Now, let's see what you got for that. You said, I believe, that some engineers came over to Cincinnati?

A. I simply related certain specific examples, that was all, and

that, by no means, covered the whole thing

Q. Well, let's see what they did for you in 1919. You paid them \$72,000.00 that year, aside from this other \$104,000.00. Now, let's see what they did for that. First, in the way of engineering, you referred to some commercial engineers. Let's see what they did for you.

A. Well, as a result of the visit—. Now, understand me, as I say,

I am only giving you these as specific Examples of the service.

Q. All right, let's have them. That's what I want.

A. I told you that there was a continuous flow of information from New York in the way of bulletins, and so forth, and so it is not fair to take one specific instance or example of these services and then say: "That represents the total value that you have received from that source during that year."

Q. I don't want one. Let's have them all; let's have the first one.

A. As I say, the services cover practically every phase of the tele-

phone business.

Q. Well, that don't tell me anything; we spent \$72,000.00 here, and as the chief executive and Manager of the Company, let's see what we have gotten for the money. You haven't spent this \$72,-000.00 without letting your mind dwell to some extent upon the specific and definite benefits that have come to you and your stockholders.

A. We naturally end-avor to measure it.

Q. You come here and tell us about the benefits of this contract. Let's see what they are. Let's take the \$72,000.00,—eliminate the \$104,000.00 and let's put your finger on something definite that these people did for you in the year 1919.

A. Well, I will just simply say, for example, in connection with the visit of Mr. Mandell, we established a new contract order,-

routine

Q. What do you mean by that?

A. Why, that's simply a single proceedure in getting our contract orders covering installation, removal and change, and so forth. as a result of the suggestions.

Q. Well, what did that save?
A. I would say that that saved, alone, in the neighborhood of \$10,000,00 a year.

Q. Well, let's see how it did it. How many less men did you

employ?

A. It cut down the number of people who were engaged in that class of work.

Q. Well, how many? A. Wait a minute.

Mr. D. A. Frank: Give him a chance.

A. I think we had about thirteen in that department; it cut it down to about seven, is my recollection. I remember it reduced the number of operations. We were getting out, I think, about twelve copies of the contract order and it reduced the number of copies of the contract order to seven, and, I think, we get out in the neighborhood, I think of possibly 60,000 of these contract orders in the course of a year.

Q. All right; let's see what suggestion it was that brought about

all this. Now, what he suggested, you did?

A. Simply certain re-routing through our various departments, which enabled us to eliminate certain copies of the contract order.

Q. You say that you had certain methods of routing these things in the handling of your contracts, and this gentleman came along and showed you a better way? Now, what was the old method and what is the new method?

A. Well, the old method provided that there was considerable duplication in the way of checking of the contract order; also provided, as I said before, a larger number of copies of the contracts, and we found under the new arrangement that considerable lost motion was eliminated: that we could write economically a larger number of copies at one time; not only was there an economy in the use of paper, but also an economy in the method of writing. We formerly had inserted the carbons between each of the nine copies of the paper; under the new arrangement we used what was termed a fanfold filler. Now, under this fan-fold filler arrangement the carbon is fed continuously,-there is no change of carbon and the typist

dosen't have to take out the carbon and reinsert it at the next

768

order,—she simply tears it off.

Q. Now, the fan-fold filler, that's some improvement, some little improvement that some manufacturer or inventor had gotten up in order to handle carbon paper?

A. Yes, sir.

Q. The manufacturer, himself, as claiming all of these improvements and benefits over the old methods?

A. I have no doubt he was, yes, sir; but the American Telephone

& Telegraph Company suggested it to us.

Q. Well, you could have gotten it from the manufacturer just as well?

A. We could have had we known about it.

Q. In other words, you think you are paying \$10,000.00 for that manufacturer's improved method of handling carbon paper.

A. Oh no; that's a conclusion that you have drawn that's errone-

Q. Now, you have stated that formerly you had been putting

carbon sheets between each of the nine sheets of paper?

A. You heard my testimony, also, as to the elimination of a certain number of copies; also the elimination of certain checks that we were using, and I don't want you to draw your conclusion on the whole thing on the basis of the fan-fold filler.

Q. We are talking now about this fan-fold filler. Now, that's

one of the things,—put it that way.

A. One element.

Q. That saved the \$10,000.00. Let's take that up first. Now, as I understand it, it is that some manufacturer or inventor had conceived this idea and put it into practical effect, and was soliciting trade throughout the commercial world for his improved method of pulling out those things.

A. The device was on the market,—whether he was solicit-

769 ing trade, I don't know.

Q. The device was on the market, and all the benefits of it were an open book,-there were no secrets about it, and, so far as this particular matter goes, all that was done was for the American Tel. & Tel. Company's man to call your attention to that new improvement of the independent manufacturer? Well, so much for that. Now, let's take the next one,-we have disposed of that.

A. I didn't agree to that at all. Q. Well, let's dispose of it.

A. I think you overlooked the fact, and are apparently acting on the assumption that all knowledge with respect to a particular thing rests with everybody.

Q. No, I am not doing that, Mr. McBurney. I think I tried to

state it fairly.

A. Probably the reason that the American Telephone & Telegraph Company knew about this fan-fold filler was because of their research upon that particular subject.

Q. Although an independent or individual manufacturer was manufacturing them and trying to make his products known to the

commercial world?

A. Also there may have been many other similar devices on the

market, but this, in this judgment, was the best one.

Q. But I understand that you were not using any such device, but used the old-fashioned method of sticking in nine carbons between nine sheets of paper?

A. Prior to that time, that is correct.

Q. All right; what the American Tel. & Tel. Company did in this regard is that they called your attention to this new device,—That's correct, isn't it?

A. Yes, sir.

Q. All right; let's see what else went into that \$10,000.00. What else did that held you in the contract department about those matters?

A. Well, as I said before, it reduced the number of employees in the department from approximately——

Q. (Interrupting.) What did that,—did this fan-fold filler do that?

A. Reduced the number of operations.

Q. This fan-fold filler did?

A. That, to a certain extent, but also eliminated all these various checks, and we used less than we previously had.

Q. What was there about that that any ordinary intelligent ac-

countant wouldn't discover?

A. Well, if we all knew everything that's desirable about any particular industry, we would all be on the same basis, but unfortunately we do not. Even you might not be conversant with certain phases of legal procedure.

Q. Well, you can hardly imagine that.
A. I was merely using an extreme case.

Q. Well, we will let it go, but you really ought not to make that reflection. Well, now, Mr. McBurney, I understand that you were doing a little unnecessary checking in this contract department, and this man came down here and cast his eagle eye over it and said: "Cut it out!"

A. Why would you say that was little?

Q. How long had that erroneous method been pursued in your department?

A. Why say "little?" I wouldn't call it erroneous, because it was the best method, according to our knowledge, at the time.

Q. Well, erroneous in that there was a better method in existence. How long had you been pursuing the old method?

A. For a matter of several years,—I don't know.

Q. What's this gentlemen's name?

A. Mr. Mandell.

Q. Had Mr. Mandell been in to see you before in the seven years?

A. No. sir.

Q. He was here in 1919, and hadn't gotten around to see whether

you were routing those things properly for seven years?

A. Mr. Mandell came around in the course of his study on a trip that he was making all over the country in connection with this contract work.

Q. And it took him from 1913 to 1919 to get around to your de-

partment?

A. I didn't say that at all.

Q. Well, he didn't get there before?

A. He got there that specific time. I don't have any especial system of keeping on his trail, and am absolutely unable to account for his movements between the time he first took employment with the American Telephone & Telegraph Company and the time he appeared at the Cincinnati Company.

Q. I was asking you if he didn't fail to get around there for

six years?

772

. A. I don't even know that he was employed by the American Telephone & Telegraph Company for six years.

Q. Well, whoever held his position with the Company, any other

auditor of the Company?

A. Oh, yes, we had an annual audit.

Q. But nobody caught this thing for six years?

A. No, sir.

Q. Well, accepting the \$10,000.00 as being a good investment,

that leaves \$62,000.00. Let's see what else they did.

A. Well, it would be very difficult for me to place a value on it for this reason, as I explained to you, if I could be in a position to testify to the exact facts of each particular service that we received from the American Telephone and Telegraph Company, I would have to have the combined knowledge of each particular department of the telephone business, and I certainly would not arrogate that to myself.

Q. But you come here and tell us about it, and now we want to know the details. You say they are services, and yet you don't point out to us where this \$176,000.00 is absorbed.

A. No, but I will tell you how I arrived at my conclusions, which is this, as I have said before, the telephone business is a very complex business and it isn't possible for any one man to know all about it, and the best he can to is to do as is commonly recognized as good business judgment, is to select capable technical men and put them in charge of these departments and supervise their work. not making a comparison, but I have always understood that Mr. Carnegie's great success was due to his faculty of selecting his lieutenants, and I have no doubt he didn't know anything about the processes of making Bessemer steel, but he did know, however,

whether or not a particular department was making money or not.

A. My statement is in the record.

Q. You have how many engineers in your plant at Cincinnati? A. We have, -well, let's see, -we have six or seven.

773 Q. Six or seven engineers?

A. Yes, sir; some of them supposed to be pretty competent engineers.

Q. Some of them supposed to be pretty competent engineers.

A. Yes, sir, in their particular line. Q. Well, what is this particular line?

A. It depends upon whether —, traffic engineers.

Q. Well, have you a traffic engineer?

A. Yes, sir.

Q. Have you a structural engineer?

A. No, sir, we haven't a structural engineer; we have an architect who takes the place of a structural engineer.

Q. Well, what branch of the telephone industry that requires an

engineer are you lacking in?

A. I would say research and development work. In other words, the functions that are performed by the American Telephone & Telegraph Company's General Staff.

Q. And yet, for this \$72,000.00 a year you haven't been able to point out in the last six years anything that has come to you as

the result of their research?

A. I haven't been able to give you detailed figures in each particular case.

Q. Nor have you been able to give me a definite illustration up to this point, of the improvements.

A. Yes, I have told you-

Well, you did say something about trans-Q. (Interrupting.) mission in a general way, but aside from that, can you give me one?

A. Why, I mentioned in connection with the service of the Ac-

counting Department,—the value of the annual audit.

Q. The Accounting Department. I am speaking more of developments along engineering lines. We will count that as

774 Then, now, let's have number three.

A. Of course, as I say, it is rather difficult to make an exact estimate of value of that kind of thing, particularly from a plant standpoint, because, for example, we might put in, if we had not the advice of the Engineering Staff of the American Telephone & Telegraph Company what would be an absolute type of central office equipment. We can measure, in a general way, the advantages received from the American Telephone & Telegraph Company by comparing the results that we obtain with surrounding companies which don't have the same advantages.

Q. That would be a right difficult thing to do this morning,there is so much room for differences. You see, you are spending \$176,000.00 a year, and I am only interested to know, even in a general, fairly evident way, what you have gotten for it, because you argue from that that we ought to accept it here and we want to know what we are getting for it. Now, you mentioned what you mught call—you refer to two instances,—now, can you give me the third? Well, if you can't, let's turn then to the—a minute to your association with the American Tel. & Tel. Company. You say that they own 30% of your stock?

A. Yes, sir.

Q. You say they can't buy any more of the stock?

A. They can, in the open market.

Q. Have you any idea why they don't buy it?

A. I don't know.

Q. They have whatever influence one-third of the stockholders would have in the management, or in shaping the policy of your Company, do they not, Mr. McBurney?

A. The only way, I think, in which they could exercise would be by mental telepathy,—they are not present at any

of our meetings.

Q. They could exercise quite a bit back of that 30,000 shares?

A. No, sir; we are absolutely independent in our determination of what our policies will be.

Q. Mr. McBurney, there is what is known as some sort of association of independent telephone companies, isn't there?

A. I believe there is some such association.

Q. Does your Company belong to it?

A. No, sir.

Q. Have you ever discussed with the independent companies the manner in which you are regarded by them, as to whether or not you are an independent company, or not?

A. Well, we are evidently not what is known as an independent

Company we are a non-controlled Bell Company.

Q. Don't the independent companies refer to your Company, and to the New England Telephone Company, as decoy ducks, or stool pigeons for the American Tel. & Tel. Company?

A. I have never heard any such reference.

Q. Have you ever discussed with any of the independent telephone companies, or ever heard any remarks about your relations with the American Telephone & Telegraph Company?

A. No, sir.

Q. How many times have you testified in rate hearings for the

American Tel. & Tel. Company?

A. I think this is the—let's see, I have testified at the request, not of the American Telephone & Telegraph Company, but at the request of the particular associated Company involved in, I think, four cases,—this makes the fourth.

Q. That's mostly during this year or last year,—within compara-

tively recent years?

776 A. Within—Recently, because my connection with the Telephone business is comparatively recent,

Q. These rate hearings all over the country were starting about

two years ago, were they not?

A. Oh! no. If I had to go around to testify in rate cases, I wouldn't do anything else.

Q. Well, you have been devoting considerable of your time recently to testifying in rate cases?

A. No, sir; I testified once last year, this is the first time this year,

and, I believe, possibly twice the preceding year.

Q. You testified in one case where the 4½% charge has been questioned, have you not?

A. I have testified on the experience of the Cincinnati Suburban

Bell Telephone Company on the 41/2% contract.

Q. You and Moran are present most of the time-you know Mr. Moran?

A. I know Mr. Moran.

Q. You have met him at these hearings, or heard his depositions read at these hearings?

A. I have been present four times. Q. And Mr. Moran was there?

A. No, sir, Mr. Moran was present only in one case.

Q. His Depositions were taken in other cases?

A. I don't know.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. Mr. McBurney, this is the fourth time you have testified with respect to the 41/2 %?-is it? 777

A. Yes, sir.
Q. Two of the other three times you testified at my request, didn't you? A. Yes, sir.

Q. One time in Jefferson City and once in Fort Worth?

A. Yes, sir .

- Q. And would you have to pay anything for the maintenance of the instruments?
- A. Well, we, of course, would have to maintain them ourselves. Q. And would have to set aside something for depreciation, would you?

A. Yes, sir.

Q. You would have to count something for contingencies?

A. Yes, sir, interest on investment.

Q. Interest on investment?

A. Yes sir.
Q. All together, it would cost you somewhere in the neighborhood of from 23% to 25% per year to maintain these instruments?

A. Well, I can't give you the exact figures. Q. That doesn't sound unreasonable, though, does it?

A. I should say that that was approximately correct.

Q. Are these instruments as good, or better, than any other instruments that you can buy on the market?

A. We think that they are the best.

Q. You stated that the transmission in these instruments that are furnished has been improved within the last seven years. Do you mean that the instruments have been improved in such way that they can be used for this long distance connection as, say, between Cincinnati and San Francisco?

A. That's my understanding.

778 Q. And you get the benefit of that immediately, without any additional payments?

A. Yes. sir.

Q. Counsel asked you if, on account of this improved transmission, you were getting any more money from the subscribers. The subscribers are getting something more?

A. The subscriber is getting more value for the same money that

he is paying us.

Q. And these improvements that have been going on in these instruments have been given you year by year, from the very geginning of this relation,—isn't that true?

A. Yes, sir.

Mr. Howard: Mr. Frank, just let him testify.

(By Mr. D. A. Frank:)

Q. State what the facts are, as to whether you have been getting these improvements from the very beginning of the relations.

A. All of the improvements that the Bell System has made, from its inception, have been available to the Cincinnati Company and have been used by the Cincinnati Company.

Q. State what your opinion is as to the value of your relation with respect to the future developments, as well as compared with the past

developments of these instruments, and-

A. (Interrupting.) Well, the general opinion of the students of the subject is that the ground has only been scratched in electrical transmission. Now, we have this guarantee, that whatever is developed by the Bell System we will have the advantage of. History

shows that the major developments in the art of telephony have originated with the Bell System,—the Bell System's en-

gineers were the first ones to make trans-continental telephony possible; the wireless telephone engineers of the Bell System talked with the Eiffel Tower and Arlington, Virginia, and I am confident that if wireless telephony ever becomes commercially possible, it will be the Bell System that makes it so, and if the Bell System does make it so, the Cincinnati Company will have the advantage of that.

Q. Is that one of the advantages of this arrangement?

A. Yes, sir.

Q. Did you know that you were protected by something like five thousand patents owned by the Bell Company at the present time?

A. I did not know that it was that amount; I knew that there

were a great number.

Q. Counsel asked you if you knew what profit the Western Electric Company is making on the instruments. Does it make any difference what profit they are making?

Mr. Howard: Please don't lead him.

(By Mr. D. A. Frank:)

Q. No matter what profit the Western Electric Company might be making, if you were to purchase these instruments in the open market, would you be compelled to pay-

Mr. Howard (interrupting): Compelled to pay whatever they asked for it.

(By Mr. D. A. Frank:)

Q. Do you agree to that answer? A. Yes sir, that's satisfactory to me.

Q. Now, you were asked to detail about Mr. Mandell, and the statement was made to you by Mr. Howard that this man had not

been there within seven years. Do you know how long the system that was evolved by Mr. Mandell, under which you 780 claim that you saved \$10,000.00 a year, do you know how long that system was in vogue before you got the benefit of it?

A. I think we probably got the benefit of it immediately upon its inauguration, because I know Mr. Mandel had been engaged in the study of that particular proposition on the Pacific Coast; that he had inaugurated the system out there and came back by the Cincinnati Company on his return trip to New York.

Q. On any of these improvements, do you have to wait seven

years if you want to know about them?

A. As soon as an improvement is standardized in any department, that information is sent out to the field,—its then available to the field.

Q. What kind of an organization have you, Mr. McBurney?

A. We have a standard organization.

Q. Your Company has a President and Vice-President, and a Board of Directors?

A. Yes, sir.

Q. What other officers?
A. Well, we have the regular—that is, we have the general organization,—executive, accounting, engineering, legal department, commercial, traffic, plant,—the standard organization.

Q. Standard organization?

A. Yes, sir.

Q. If you were purchasing your instruments in the open market and paying \$4.50 or \$5.00 for each instrument, and any radical change was made in them, and you wanted to keep up to date, what would you have to do if you got the new instruments?

A. We would have to junk old instruments and pay the

781 new price for the new ones; junk the old instruments at a

considerable loss, the chances are.

Q. Well, regarding the changes in these instruments, is there any advantage under the present arrangement in being able to get new instruments at any time to take the place of any defective ones?

A. Certainly, and there is this particular advantage from a practical standpoint,-that you get the latest improvements in the art.

Q. You get the latest all the time, without any additional payments?

A. Yes sir.

Q. I believe you stated that if you make any changes in your central office equipment, that it would be very desirous to you, very advantageous to you to have the very best advice with respect to central office equipment?

A. Yes, sir.

Q. What is your opinion of the character of construction of central office equipment being used today? Is that, or not, first class?

A. We think it is the best to be had. I might give you an illustration of that, for example,—this year the Western Electric Company was unable to furnish us the total amount of our cable requirements; they simply did not have the manufacturing capacity,—they allowed us our pro rate share. They said;—Mr. Thayer, in his letter to Mr. Kilgore, said, if we wanted to avail ourselves of any outside manufacturer of cables we could do so. We did not want to do so, because several years ago, before we went into the supply contract

with the Western Electric Company, we had tried that very thing, and it was very unsatisfactory, and so we prefer to wait

in order to get the Western Electric stuff.

Q. The men in your organization are pretty good business men, aren't they?

A. They have that reputation.

Q. Do you think that they would be paying \$176,000.00 a year to the American Company unless they thought they were getting their money's worth?

A. No, sir.

Q. Are any of your officers connected with any banks?

A. Yes, sir; we have what we think a very strong directory, composed of Mr. Kilgore, the President of the Company. He is very largely interested in Cincinnati generally as the President of the Street Railway Company there, a large real estate owner, and he is interested in one of the large banks there. Mr. Chas. P. Taft, brother of Ex-President Taft, is one of the Wealthiest men in Cincinnati, usually conceded to be a very excellent business man. Mr. Edward Guepper,—he is Chairman of the Executive Committee of the Citizens' National Bank, one of the best known and most influential bankers in the city. Mr. Geo. W. Lewis, he is a retired capitalist. Those are some of them.

Q. When this study was made to determine whether or not the license contract was of advantage to the Cincinnati Company, were those gentlemen convinced that it was of advantage to your

company?

A. I don't know whether that particular proposition went up to the Board as a whole. Mr. Kilgore was on—

Q. (Interrupting.) And Mr. Kilgore-

A. (Interrupting.) —You are referring to the study as to the value of the instruments,—the value of the instrument service alone? I wasn't on the Board at that time, and so I do not know whether the Board passed on it or not.

Q. But you do know that your Executives approved of the arrangement?

A. Yes, sir.

Q. And they think it a very valuable arrangement?

A. Yes, sir.

Q. And if you didn't have the arrangement, and thought it were possible to make it, you believe that it would be wise for the company to make it?

A. Yes, sir.

Mr. D. A. Frank: That's all.

Recross-examination.

Questions by Mr. Howard:

Q. You say your Board is fully convinced that you are getting your money's worth of the \$176,000.00 a year?

A. Yes, sir.

Q. The American Tel. & Tel. Company has 30% of the stock that elects that Board?

A. They have nothing to do with the election of the Board. Q. They have 30% of the stock?

A. No monority interest can elect the Board.

Q. Well, they have 30% of the stock of your company, have they not?

A. Yes, sir.

Q. They have nearly one-third of the voting power that elects this Board?

A. Yes, sir.

784

Q. What other stockholder owns an amount of stock equal to that owned by the American Tel. & Tel. Company?

A. No one stockholder owns an equal amount, but the control of stock rests with Mr. Kilgore and his associates.

Q. You are sure of that, are you?
A. Yes, sir.
Q. Two-thirds of this stock is subject to be bought on the open market by the American Tel. & Tel. Company at any time they want to get busy,-isn't that a fact?

A. And want to pay the price.

Q. And the influence of the American Tel. & Tel. Company is in that exchange, surrounding the operations of this Company?

A. I don't see how they are in a position to exercise any influence. Q. The Board of Directors are anxious to please the stockholders, are they not?

A. They administer the affairs of the Company in the interest of

the stockholders.

Q. The largest one of which is the American Tel. & Tel. Company?

A. Yes. sir.

Mr. Howard: That's all.

785 Redirect examination.

Questions by Mr. D. A. Frank:

Q. Has the American Telephone & Telegraph Company ever tried, in any way, to control any operation of the Company?

A. No, sir. Q. Has the 70% always controlled?

A. There has always been a local majority at the annual meetings of the stockholders.

Q. They are rather jealous of that control? A. Why, they are.

Q. And if the American Telephone & Telegraph Company started · in to get control, they would have to pay a pretty good price?

A. They certainly would. It is a very closely held proposition.

Mr. Frank: That's all, Mr. McBurney.

Recross-examination.

Questions by Mr. Howard:

Q. Is there any friction between the American Tel. & Tel. Company and the other stockholders?

A. No, sir, there is not.

Q. Everything is running pretty smooth and the American Telephone & Telegraph Company are well pleased with the arrangement?

A. They have never raised any objections.

Q. The American Company has never raised any objection to this?

A. And if there have been certain disagreements in regard to interpreting the contract, they have always been adjusted after-786 wards.

Q. They are satisfied with it?

A. They made it themselves, and so far are satisfied with it.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. The American Telephone & Telegraph Company has always treated your Company fairly?

A. Yes, sir.

Q. And you are satisfied with the treatment received from the American Company?

A. Yes, sir.

Recross-examination.

Questions by Mr. Howard:

Q. If they closed in this control and bought up the 20% of stock in this Company and the New England Telephone Company they wouldn't have anybody in the whole United States to pose as an independent Company and to testify as to the benefits the independent companies derive from this 41/2% contract, would they?

Mr. D. A. Frank: I think that's clearly objectionable, your Honor. Mr. Howard: I think it is self-evident. That's all. Mr. D. A. Frank: That's all, Mr. McBurney. 787

(By Mr. Howard:)

Q. You spoke about mistakes in central office equipment,—the Western Electric Company has competent engineers, have they not? A. And they work in conjunction with the engineers of the American Telephone & Telegraph Company.

Q. And it is a fact that the American Telephone & Telegraph

Company owns and controls it?

A. I do not know the exact relationship.

Q. So, then, it is up to the Western Electric Company to see that the proper switch boards are installed?

A. It's one of their functions to do a good job.

Mr. Howard: That's all. Mr. D. A. Frank: That's all.

JAMES T. MORAN testified for the plaintiff by deposition as 788 follows, to-wit:

Direct interrogatories:

My name is James T. Moran, I have lived in New Haven, Connecticut, and am connected with the Southern New England Telephone Company; I am President and General Attorney of the Company. I have been connected with such Company since September, 1884. I have been President of the Company since February, 1917. Prior to that time I was Vice President and General Manager from February, 1908. Since 1884, I was first the Attorney and later the General Attorney of the Company.

The Southern New England Telephone Company operates telephone exchanges throughout the State of Connecticut. The outstanding capital stock of the Southern New England Telephone Company is Twelve Million Dollars, (\$12,000,000.00), divided into one hundred and twenty thousand (120,000) shares. I know by whom The American Telephone & Telegraph Company the stock is held. is a stockholder in the Southern New England Telephone Company.

39,851 shares of stock in the Southern New England Telephone Company are owned, or held, directly or indirectly, by the American Telephone & Telegraph Company and its asso-789 ciated or allied interests. 33.21 per cent of the outstanding capital stock of the Southern New England Telephone Company is owned. or held, directly or indirectly, by the American Telephone & Telegraph Company and its associated or allied interests.

66.79 per cent of the outstanding capital stock of the Southern New England Telephone Company is owned and held independently of the American Telephone & Telegraph Company and its associated

and allied interests. The American Telephone & Telegraph Company has never owned or held, directly or indirectly, a majority of the outstanding capital stock of the Southern New England Telephone Company.

33.21 per cent is the largest percentage which the American Telephone & Telegraph Company and its associated or allied interests has at any time owned or held, directly or indirectly, in the Southern

New England Telephone Company.

The Southern New England Telephone Company has a board of directors as well as an executive committee. The board of directors. elected annually by the stockholders, controls and directs the affairs of the Southern New England Telephone Company and elects

790 its officers, such as its President, General Manager, and Secretary and Treasurer. The affairs of the Southern New England Telephone Company have been thus directed and controlled and its officers thus selected since its organization, October 2, 1882. There are eleven members on the board of directors of the Southern New England Telephone Company.

The American Telephone & Telegraph Company and its associated or allied interests have two directors on such board, Theodore N. Vail and Harry B. Thayer. The American Telephone & Telegraph Company and its associated or allied interests have never been represented

by more than two directors on the said board in the past.

There are six members of the executive committee of the Southern New England Telephone Company. The American Telephone & Telegraph Company and its associated or allied interests have one member, Harry B. Thayer, on such executive committee. American Telephone & Telegraph Company and its associated or allied interests have never been represented on such executive committee in the past by more than one member. With reference to the extent that the representatives of the American Telephone & Telegraph Company, or its associated or allied interests, have participated in the management and direction of the affairs of the South-

ern New England Telephone Company, of the two directors representing the American Telephone & Telegraph Company one. Theodore N. Vail, has never attended a meeting of the board. The other director generally attends the quarterly meetings of the board of directors, but does not attend the meetings of the executive committee unless the Company management especially requests his

attendance.

The Southern New England Telephone Company pays a portion or per cent of its receipts to the American Telephone & Telegraph Company; it pays 41/2 per cent of its gross receipts to the American Telephone & Telegraph Company. It pays such 4½ per cent of Account 500, subscribers, station revenues; Account 501, public pay station revenues; Account 504, private exchange lines; and Account 510, message tolls, less Account 304, uncollectible operating The account numbers refer to the Interstate Commerce Commission's standard system of accounts for Class A telephone companies.

This payment is made by the Southern New England Telephone

Company in consideration of instruments and services furnished under a contract between the Southern New England Telephone Company and the American Telephone & Telegraph Com-

pany dated November 14, 1918, entitled: "Agreement between American Telephone & Telegraph Company and The Southern New England Telephone Company covering telephones, services, licenses and privileges"; a copy of which is attached to my deposition marked "Moran Exhibit 1," and made a part of this answer. The payment referred to in my answers to the preceding interrogatories, numbers 28 and 29, is the payment made under the contract Moran Exhibit 1. In my judgment the property and services furnished by the American Telephone & Telegraph Company to the Southern New England Telephone Company are worth the amount paid therefor by the Southern New England Telephone Company. The Southern New England Telephone Company continues this arrangement whereby it pays 4½ per cent of such gross receipts to the American Telephone & Telegraph Company because it considers the arrangement of very substantial value to it.

If the Southern New England Telephone Company did not have the said arrangement with the American Telephone & Telegraph Company I would consider it advisable and advantageous for our Company to make such arrangement if the American Telephone &

Telegraph Company were willing to make same.

I am familiar generally with the payments made to the American Telephone & Telegraph Company by its associate and subsidiary operating companies generally for the use and repair of instruments and for American Telephone & Telegraph

Company services. It is my understanding that the payment of the Southern New England Telephone Company constitutes the same percentage of its telephone receipts as is paid by all of the other telephone companies known as the Associated Companies of the Bell

System

I am familiar generally with the property and services furnished by the American Telephone & Telegraph Company to its associate and subsidiary operating companies in consideration of such 4½ per cent payment. So far as my knowledge goes it is my understanding that all of such associated and subsidiary companies receive substantially the same services as are rendered to the Southern New

England Telephone Company.

Q. At the time the arrangement was originally made whereby your company has been receiving the use of such property, and has been receiving such services from the American Telephone & Telegraph Company, what interest in your company was owned or held, directly or indirectly, by the American Telephone & Telegraph Company and its associated or allied interests? If at the time such arrangement was originally made the American Telephone & Tele-

graph Company or its associated or allied interests owned or held directly or indirectly, any interest in the Southern New

England Telephone Company, please explain fully.

A. Up to May 1, 1884, the date when the arrangement was originally made, the American Bell Telephone Company, the pred-

ecessor of the American Telephone & Telegraph Company, held but 43 shares of the capital stock of the Southern New England Telephone Company. Other than these 43 shares of stock neither the American Bell Telephone Company or American Telephone & Telegraph Company held any interest whatsoever in the Southern New England Telephone Company.

Cross-interrogatories:

I attach copies of the Charter and By-Laws of the Southern New

England Telephone Company, marked Moran Exhibit 2.

On January 1, 1920, the Southern New England Telephone Company had 2,306 stockholders, and the number is substantially the same on this date, March 3rd, 1920. The number has probably increased slightly. The American Telephone & Telegraph Company, including its qualifying shares for two directors, five shares each, holds 39,851 shares. 2,031 stockholders are residents of the State of Connecticut, holding in all 72,140 shares. The balance of

8,009 shares is held by 272 stockholders distributed through
29 other states of the United States and two foreign countries.

The total number of shares is 120,000. There are no treasury stock, bonds, or other securities in the treasury of the Southern New England Telephone Company. I have no personal relationship and am not related by blood or marriage to any official or officials in the American Telephone & Telegraph Company, or any of its subsidiaries. I do not know the actual cost to the American Telephone & Telegraph Company of the services rendered us under the contract whereby we pay 4½ per cent of the gross earnings annually to the aforesaid company.

The engineering services we receive from the American Telephone & Telegraph Company are advice and direct assistance in (a) building engineering, including the design and character of central office buildings; (b) equipment engineering, including the standardization of central office and station equipment; (c) plant engineering, including standardization of construction methods, and establishment of protective measures against the interference of foreign currents; (d) traffic engineering, including studies of central office requirements and the standardization of operating practice; (e) commercial engineering, including field development studies for a long

period of years; (f) fundamental engineering, including the determination of fundamental plant requirements from the data established by development studies. I cannot state in detail what patent devices we are permitted to use for our local service which are not open to use by any independent telephone company. The annual report of American Telephone & Telegraph Company issued March 1, 1920, states on Page 28 "The patent holdings of the Bell System have increased fully 12½ per cent during the last year. It now owns or controls or is licensed under more than 5,000 United States letters patent and applications therefor." Under the agreement Moran Exhibit 1 The Southern New England Telephone Company is entitled to a license for the use of all of these patents.

Other services which are rendered under the aforesaid contract are legal advice and assistance. Advice and assistance in regard to taxation, national and state; advice and assistance in matters pertaining to Government regulations, national and state; publicity as advanced by newspaper statements and pamphlets setting forth the policies and purposes of the Bell Telephone System; advertising, as contained in all the leading magazines of the country.

Financing, including direct loans and the underwriting or the liability assumed under the plan for employes' pensions, disability

benefits and insurance.

797 Accounting, including the checking of the company's state-

ments and an annual audit of its books.

And a general security and advantage resulting from the immediate availability of, and daily correspondence with, a comprehensive organization composed of the most expert telephone men in the world.

We have an engineering department. An organization chart of our engineering department is hereto attached marked Moran Exhibit 3 and made a part of this answer. There are 38 employes in our engineering department. The minimum wage is \$572 per annum and the maximum salary is \$6,500 per annum.—that of the

Chief Engineer.

Our Engineers are operating engineers, the engineers of the American Telephone & Telegraph Company are development, research and consulting engineers. I would say that our engineers are practical rather than technical engineers. Our engineering department receives the standards and advice and recommendations of the Engineering Staff of American Telephone & Telegraph Company and applies them to the construction and maintenance of our plant in all its phases. In my judgment our engineers are quite competent to handle the work entrusted to them, but they do find it necessary to invoke continuous aid from the Engineering Staff of American Telephone & Telegraph Company. An example

798 of the differentiation between the work of our engineers and the work of the Engineering Staff of American Telephone & Telegraph Company is the following: About 1906 the New York, New Haven & Hartford Railroad Company decided to change from operation by steam to electrical power. It adopted the so-called single phase alternating current system, installed by the Westinghouse Electric Company. This change was brought to the attention of the Engineering Staff of American Telephone & Telegraph Company and it determined that the operation of this new system in the method originally planned for would result in substantial annihilation of the telephone service within a substantial distance from the right-of-way of the railroad company. At the time the Southern New England Telephone Company was not in a position through its engineering department or otherwise to meet or fight this electrical interference. At that time the New York New Haven & Hartford Railroad Company was strong and powerful. The American Telephone & Telegraph Company took over the full responsibility in the

handling and fighting out of the electrical conflict. A corps of American Telephone & Telegraph Company engineers was put to work upon the problem, and in concert with the experts of the railroad company and of the Westinghouse Company modifications and adjustments were made in the plans for the installation of the electrical transmission whereby the trouble was substantially avoided.

This work has kept up ever since, following the development and enlargement of the railroad and its electrical equipment.

New problems arise in it from time to time and are worked out amicably between the parties involved. The engineering department of the Southern New England Telephone Company has had little or no part in the handling of this important electrical problem. It is occasionally called upon to make practical tests on the lines and apparatus of our company, but its part is only incidental to the main work.

This particular electrical installation was the first of its kind on any railroad in the country, and the problem as met and surmounted in Connecticut is of importance and great value to every telephone plant wherever this form of electrical power transmission has since

been or will hereafter be installed.

We have no legal department. As General Attorney for the company I care for the general legal matters of the business, depending upon the advice and assistance of the Legal Department of American Telephone & Telegraph Company whenever required. I depend upon local attorneys in the different cities and towns of the state to handle our court work such as accident cases. Of my salarly as President and General Attorney, \$3,000.00 is allocated to the General Attorney.

Thus far our Legal Department, such as it is, has proven fairly competent to handle the affairs of the company but finds it necessary to invoke, from time to time, the aid of the Legal Department of American Telephone & Telegraph Company in the

handling of its legal affairs.

The present market value of the Southern New England Tele-

phone Company's outstanding stock is 98 bid, 100 asked.

At the present time the Southern New England Telephone Company is carrying no loans with bankers but has borrowed about a million and a half dollars from American Telephone & Telegraph Company. The company is sound financially fixed and could probably care for its financial requirements without the assistance of American Telephone & Telegraph Company, but could not meet them so easily, so satisfactorily, or economically as it can through its American Telephone & Telegraph Company relation.

By means of this financial relationship with American Telephone & Telegraph Company we are temporarily at least getting money at less than it would cost to obtain it in Connecticut from bankers or otherwise, and, as I understand the facts, at less than it costs the

American Telephone & Telegraph Company.

The Southern New England Telephone Company for its own corporate and administrative purposes makes up monthly various reports on the standard forms furnished by American Telephone & Telegraph Company and used by all of the Associated Com-

panies of the Bell System. Copies of these reports are furnished by

our company to American Telephone & Telegraph Company.

Reports of one kind and another are furnished practically every business day of the year to American Telephone & Telegraph Company, and time would not permit to make and attach copies of them. A set of 32 report forms prepared monthly and of which copies are furnished American Telephone & Telegraph Company by our company is hereto attached marked Moran Exhibit 4. A copy of the annual report of the Southern New England Telephone Company for the year ending December 31, 1919, is attached marked Moran Exhibit 5.

I have given depositions on telephone rate cases in behalf of American Telephone & Telegraph Company, or its subsidiaries prior to this one. I gave a deposition on the 5th day of October, 1918, in the case of the Southwestern Telegraph & Telephone Company vs. City of Ft. Worth, et al., in the United States District Court for

the Northern District of Texas—Ft. Worth Division. The original deposition is, I assume, on file in the United States District Court for the Northern District of Texas, Ft. Worth

Division.

I have testified in a rate case or valuation case in behalf of the American Telegraph & Telephone Company or its subsidiaries. first testified in 1914 before the Public Service Commission of the State of Vermont. June 17, 1915, at Milwaukee, Wisconsin, I testified before the Railroad Commission of Wisconsin; In re "Bogart et al. versus Wisconsin Telephone Company, and City of Milwaukee vs. Wisconsin Telephone Company." In December, 1916, I testified before the Public Utilities Commission of the State of Illinois in the case known as the City of Peoria Rate Case. June 15, 1917, I testified at Montgomery, Alabama, before the Pub-lic Service Commission of the State of Alabama in the case of City of Birmingham, Alabama, vs. Southern Bell Telegraph & Telephone Company. In November, 1917, I testified at Jefferson City, Missouri, before the Public Service Commission of the State of Missouri "In the matter of the application of the Southwestern Bell Telephone Company for an order permitting increase and change of certain classification of rates and charges in the St. Louis Exchange, and fixing the value of all exchange property.'

Q. Have you ever attended meetings or conferences of the American Telegraph & Telephone Company or any of its subsidiaries in New York or elsewhere concerning rate cases or concerning the attempt to uphold the annual payment of 4½ per cent of gross revenues? If yea, state when, where and give the total number of times that you have attended any such meetings

since January 1, 1917?

A. I have attended no such meeting or conference and have no knowledge that any such meeting or conference was ever held.

I studied law and was graduated from the Law Department of Yale University in 1884 and took a graduate course, receiving the degree of Master of Laws in 1885.

With reference to my practical experience in the construction and

operation of telephone systems, in September, 1884, I entered the law office of the then President of the Southern New England Telephone Company. I at once took up the incidental law work of the telephone company, attending to collections, handling right-of-way matters and all general telephone matters requiring legal attention. In this way I became familiar with the general details of the telephone business and, in fact, grew up with it. In the course of time I acquired the title of General Attorney. In 1907 I became a director of the Company. In 1908 I was elected Vice Presi-

804 dent, and in 1911, in addition to my duties as Vice President, became General Manager of the Company. In February, 1917, I was elected President of the Company, throughout my retionship serving as attorney or general attorney in addition to my other functions. I am now President and General Attorney of the company.

The Southern New England Telephone Company is not a member of the U. S. Independent Telephone Association. I do not know of any advantage to be gained by such membership.

The Southern New England Telephone Company has purchased apparatus, appliances, and materials from companies outside of those affiliated with the American Telephone & Telegraph Company. The Southern New England Telephone Company are purchasing and always has purchased all of its telephone poles from the farmers about the state of Connecticut. It purchases all of its automobiles through local automobile dealers about the state of Connecticut. It also purchases locally much of its incidental supplies from local stores in its territory. I am unable to give the approximate amount of such purchases.

Neither I nor the Southern New England Telephone Company have ever made any tests to determine the relative merits of the American Telegraph & Telephone Company, or so-called Bell Company's instruments, and those manufactured by other com-

805 The instruments and apparatus furnished by the panies. American Telephone & Telegraph Company have been accepted as standard telephone apparatus the world over for years. The first commercially operated telephone exchange in the the world was opened in New Haven, Connecticut, January 28, 1878. The only telephone apparatus then existing and available was that of the American Bell Telephone Company, the predecessor of the The Southern New American Telephone & Telegraph Company. England Telephone Company and its predecessor, the New Haven District Telephone Exchange Company has continuously since January 28, 1878, used the instruments and apparatus of the American Bell Telephone Company and American Telephone & Telegraph Company. Whenever improvements in instruments were made new instruments with such improvements were from time to time supplied our company, and the relationship has throughout its history worked to the entire satisfaction of the Southern New England Telephone Company and it has considered its interests best served by the maintenance of this relationship.

I have never been connected with a telephone company that is

or was a strictly independent company, or in which the American Telegraph & Telephone Company or any of its subsidiary companies

owned no securities, and had interest.

806 I am without any information as to any strictly independent company which has ever made a contract to pay 4½ per cent of its gross income to the American Telegraph & Tele-Company.

I never attended a meeting or conference of the U.S. Independent

Telephone Association.

Q. Is it your opinion that you are regarded by any operator of an independent telephone company as being the head of a really independent telephone company? If yea, state who the actual independent operators might be who have ever indicated any such belief on their part?

A. I have no opinion or knowledge on the subject.

Q. Is your Company recognized generally among owners and operators of so-called independent companies as an independent company?

A. I have no knowledge as to this point.

It is a fact that the American Telegraph & Telephone Company owns thirty per cent of the stock in the Southern New England Telephone Company; the amount of stock they own is 33.21 per cent.

Q. Outside such operators as the one that operates at Cincinnati,
Ohio, and one that operates at Waco, Texas, what other independent companies that you know of have a contract to
pay 4½ per cent of its gross income to the American Telegraph & Telephone Company?

A. I do not know of such other companies. In fact I know

nothing about the company that operates at Waco, Texas.

I do not know about the Cincinnati and Suburban Telephone It is not my understanding that the Cincinnati & Suburban Telephone Company is directly owned by American Telephone & Telegraph Company. It is my understanding, and I think I am accurate as to the facts, that the relationship of the Cineinnati & Suburban Telephone Company to American Telephone & Telegraph Company is substantially the same as that of our company, the Southern New England Telephone Company, to American Telephone & Telegraph Company. It is my understanding that American Telephone & Telegraph Company owns about thirty per cent of the Cincinnati & Suburban Telephone Company. well acquainted with the President of the Cincinnati & Suburban Telephone Company and it has always been my understanding that he, his family, and local Cincinnati people own a substantial control of the company. I have given my full, general knowledge on the subject.

808 A. E. Scott, a witness for plaintiff, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. I will ask you whether or not you have prepared a statement of the stockholders, directors and officers of the Southwestern Telegraph & Telephone Company?

A. Yes, sir.

Q. As of the date November 1st, 1919?

A. Yes, sir, I have prepared such a statement.

Mr. Frank: We desire to introduce that as Plaintiff's Exhibit No. 5.

(The document was thereupon received in evidence and marked Plaintiff's Exhibit No. 5, as requested.)

Q. What does this statement show as to who are the stockholders

of the Southwestern Telegraph & Telephone Company?

A. It shows the American Telephone & Telegraph Co. owns 349, 979 shares. Royal A. Ferris, of Dallas, Texas, owns 1 share. W. S. Gifford, of New York, owns 5 shares. Theodore N. Vail, 3 shares, H. J. Pettingill, St. Louis, owns 5 shares. E. D. Nims, St. Louis, owns 5 shares.

809 Q. In all there are 350,000 shares of stock?

A. Yes, sir.

Q. And the American Telephone & Telegraph Co. owns all but 21 shares of the stock?

A. Yes, sir.

Q. What part in the telephone business in the United States does

this American Telephone & Telegraph Company play?

A. The American Telephone & Telegraph Company is what we know as the parent company. It controls all the companies comprising the Bell Telephone System throughout the United States.

Q. According to this statement when did the American Company acquire a controlling interest in the stock of the Southwestern Tele-

graph & Telephone Company?

A. In 1902, when they owned all but \$3,600 worth.

Q. So in that year the American Telegraph & Telephone Co. became the owner of 99.95 per cent of the entire stock of the Southwestern Telegraph & Telephone Company?

A. Yes, sir.

810 H. Blair-Smith was called as a witness by the complainant and, after being duly sworn, testified as follows:

Direct examination

Questions by Mr. J. D. Frank:

My name is H. Blair-Smith; my home is in Englewood, New Jersey, and my place of business is 195 Broadway, New York City. I am Assistant Comptroller of the American Telephone and Telegraph Company. I have been connected with the company for about eight years. During the period of my connection I have been general auditor, acting comptroller,—well, let's see—assistant comptroller when I first went there, then general auditor, then acting comptroller, then assistant comptroller, and I am still assistant comptroller. The comptroller at the present time is Mr. W. S. Gifford; he is the vice-president and comptroller. Mr. Gifford, in his position as comptroller is in charge of the accounts of the American Telephone and Telegraph Company and of the accounting function of the General Staff for the Associated Companies, also of the statistical work of the General Staff.

My direct duties as Assistant Comptroller, are in connection with the corporation, the American Telephone and Telegraph Company; the books of the corporation are kept, and the employees doing so are under my control. I also deal with the finances, the loans to the

811

Associated Companies, the purchase of notes, securities, and matters of that nature. I am in charge of my department.

I have been in charge of the whole of the comptroller's department during the period of time when the comptroller was Mr. Charles G. Dubois and went to Washington as comptroller of the American Red Cross. I was appointed acting comptroller during his absence which was during a period of about seven months.

I have had experience as an accountant during a period of 26 years. In 1894 I began; I began with the Cumberland Telephone and Telegraph Company whose headquarters were at Nashville, Tennessee. I was a clerk, and I worked up until I became general cashier and was finally made auditor of that company. The auditor of that company was in charge of all of the accounting of the company. The company at that time operated throughout the states of Kentucky, Tennessee, Mississippi and Louisiana. In 1912, after I had been there 18 years, the American Telephone and Telegraph Company became—acquired practically all of the stock of that company and changed its offices, headquarters to Atlanta, Georgia. I then transferred to New York, becoming assistant comptroller for the American Telephone and Telegraph Company. Since 1894 I have been engaged continuously in accounting and financial work in the Bell system.

I have a chart here showing the organization of the American Telephone and Telegraph Company down to a certain point. It does not undertake to show in detail the number of employes and

the specific employes below those reporting to a vice president or close to a vice president.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit Number 136.

(The chart was thereupon received in evidence, marked "Plaintiff's Exhibit No. 136, witness Blair-Smith," and is filed herewith.)

Q. Now, prior to the present system of accounting what method of accounting was used in the Bell System? Well, first, what method of accounting is now used by the Bell System?

A. Well, the circular of accounts at the present time in use is a circular based on a circular issued by the Interstate Commerce Commission for telephone companies, Class A and Class B telephone companies,-our Associated Companies class As "Class A" telephone companies. The telephone companies are classified according to the gross revenues and those that have \$250,000 a year or more of gross revenues are called "Class A" companies. The Circular of Accounts now in use is known by us as "Class A" accounting circular No. 8. which is a more elaborate circular, more explicit, than that issued by the Commission; that is, the Commission may prescribe that certain items shall be charged to a specific account; if our company that puts into effect the circular is a very large company it may wish to subdivide that particular account into two or three subdivisions, and our circular makes a uniform division easy in the subdivision and yet maintain the integrity of what we call the primary account.

Q. In other words, the Interstate Commerce Commission 813 doesn't go into details in -etting out these things so you know

just exactly how to subdivide all of your accounts?

A. It gives us mainly the theory of the account and we go into

the details more elaborately than they do.

Q. Now, coming back to the question which I asked you, what method of accounting was in use with the Bell system prior to the time the Interstate Commerce Commission prescribed the uniform

system of accounting?

A. Well, if we go back to 1882 or '03, there was a circular issued at that time for the companies then licensees of the American Bell Telephone Company, and from time to time there were new circulars of accounts issued—in all some three or four complete circulars, and down to 1909—1907—those circulars had seemed to fill the bill.

Q. Did all of the Associate Companies in the Bell system employ the same method of accounting prior to the time the Interstate Com-

merce Commission prescribed this system?

A. They had the same system of accounts, but no two companies charged the same items to the same accounts. I mean the accounts were not clearly enough defined, nor were they scientific enough down to 1907 or '08; they were scientific anough to that time, but the business developed so large and became a national project that it was found necessary to formulate a new circular of accounts which would come nearer to covering the requirements of the day. Accounting, just as all other sciences, has grown, and grown very rapidly, and the necessities of accounts have been found to be much greater with the great businesses.

Q. Now, were the accounting methods and systems standardized?

A. There has been an attempt at standardization since the beginning but it has never been carried out as completely as

it is at present,—at the present day. I might say that the first great effort that was made towards standardization was that which was formulated in Accounting Circular that we knew as "Ascounting Circular No. 6."

Q. By whom was this work affecting the standardization under-

taken?

A. Mr. Charles G. Du Bois started that when he first came into the system in 1907.

Q. You are speaking of the Bell system?

A. Yes. He came into the American Telephone and Telegraph Company in 1907 and he organized a department for the framing of that circular. That circular was worked on by a number of the best telephone accountants that we could command, and in conjunction with the general auditors of the Bell system, and after two or three years it was developed to the point where it was printed and issued. That was about 1909; then we worked under that system until 1912 when a new circular embracing all the changes made in the meantime was issued as of January first, 1912. Then the Interstate Commerce Commission, in conformity with the law giving them jurisdiction over telephone accounts, undertook to go into the subject more They appointed their accountants and they called thououghly. upon us for assistance in connection with the problem, and through a period of two or possible three years these accountants worked in conjunction with the others, ours, from a practical standpoint, theirs from a theoretical standpoint, and the result of that work is "Accounting Circular No. 8," called the "Interstate Commerce Commission Circular." The two are the same, fundamentally, but

ours is elaborated more than theirs. 815

Q. Now, at the time the Interstate Commerce Commission acquired jurisdiction over telephone companies and prescribed this uniform system of accounts, were all Associated Companies using the same method of accounting?

A. They were.

Q. How long had they been using the same system of accounting?

A. They had been using that for three or four years. Q. Where did they get this uniform system of accounting?

A. From the General Staff of the American Telephone and Tele-

graph Company.

Q. Now, does this uniform system of accounting prescribed by the Interstate Commerce Commission apply to all telephone companies in the United States, or is it applicable only to the Bell Telephone

Company?

816

- A. It is applicable to all companies, but, as I say, the companies are classified. They are classified into classes A, B, and C, according to their gross revenues. The companies that are classified as "Class A" follow one accounting circular, those classified as "B" are allowed to concentrate some of the details into a simpler system of accounts and those classified as "C" have an entirely separate circular of accounts.
- Q. As to the three classes of circulars, are they practically the same?
- A. Well, otherwise they are pretty much the same, but in actual practice "C" is not as scientific and not as theoretical as the othersthe circulars "C" for class- "A" and "B."

Q. I believe you have explained how they grade.

A. "A" is a telephone company having telephone revenues in excess of \$250.00; "B" is between \$50,000 and \$250,000, and "C" is below \$50,000, a year. I think that is the classification, ap-

proximately.

Q. What is the fact with reference as to whether or not your "B" department is connected with or a member of the General staff of the American Telephone and Telegraph Company?

A. The accounting department is one of the departments of the

General Staff.

Q. Now, you say this General Staff worked with the Interstate Commerce Commission in prescribing this uniform system of ac-

counts?

A. In formulating a uniform system of accounts, the Bell telephone system with the Interstate Commerce Commission was undertaken by the American Telephone and Telegraph Company, thereby relieving the general auditors of the Associated Companies of the Necessity of devoting their time and saving the expense of coming to Washington. The American Company carried on all the business.

Q. Then the associated Companies were relieved of that?

A. They were; they placed their interests with the American Company.

Q. Do you know how the railroads of the United States handle this

matter?

A. Briefly, I do. They had what is called an "Accounting Committee" which is made up—

Mr. Howard: What have the railroad companies got to do with this?

Mr. J. D. Frank: It's very material.

817 (By Mr. J. D. Frank:)

Q. All right; go ahead, Mr. Blair-Smith.

A. The Railroads had what they call an "Accounting Committee," and their committee was made up of the chief accounting officers generally, I think, of the railroads able to have themselves represented. That committee has an organization of its own, and all accounting problems and matters relating to the accounting that is to come to all of the railroads are taken up by this committee with the Interstate Commerce Commissions, that is, the committees for the railroads, in negotiating with the Interstate Commerce Commission.

Q. Now, the railroads have had to continue that organization to

this time?

A. I understand that's in existence now and has been right along.

Q. Now, when the Interstate Commerce Commission prescribed its system of accounting regulations was it issued in such form and with such sufficient particularity so as to enable all telephone companies to thoroughly comprehend what was desired on the part of the telephone companies.

A. I think the Circular of Accounts is clear, but it was not in the form that was required by the companies of the Bell system. I might say as a parallel case that the circular issued in connection with railroads has been adjusted by railroad for its own purposes just

as Class "A" telephone companies have adjusted it for their pur-

poses,-to fit their own uses.

Q. Did the General Staff of the American Telephone and Telegraph Company do any work for the Associated Companies in connection with this accounting matter after the Interstate Commerce

Commission had issued its regulations?

A. Yes; the General Staff issued Circular No. 8 which more clearly—in fact it does meet the needs better than the Interstate Commerce Commission circular. In addition to that the General staff undertook to explain the charges that were made between Circular No. 8 and Circular No. 6 to show the relationship of the two, and, in fact, to analyze the difference so that the Accounts that were kept for the four or five years under Circular 6 could be compared with the accounts that were kept and would be produced through the use of Circular 8; that is, the accounting date for the period of time it was kept under Circular 6, so that it would not be thrown away but could be utilized to make comparisons with it after development.

Q. Have you a copy of that Circular No. 8, Mr. Blair-Smith?

A. Yes.

Mr. J. D. Frank: We sould like to offer that in evidence as plaintiff's exhibit No. 137.

(The circular was thereupon received in evidence, marked "Plaintiff's Exhibit No. 137, Witness Blair-Smith," and is filed herewith.)

(By Mr. J. D. Frank:)

Q. Now, did the issuance of Circular No. 8 and its work in con-

nection with this Accounting work?

A. By no means. It is necessary to keep the system alive and to keep in touch with the changes that are going on, and at all times; also to interpret the meaning of the Circular. It is advisable as long as you have a circular of accounts and are working under it to make as few changes as possible to get along with until you under-

819 take to revise it completely, and then the work of making comparisons is made easier when you do change; that is, after you once get a system of accounts in you want that system to last so that the results you get year by year are comparable, and Circular No. 8 has not been revised readically, But it is necessary, just as under the Constitution of the United States to Interpret what it means, and in order to interpret it it is necessary to have accounting conferences with the accountants of the Interstate Commerce Commission. Associated Companies, from time to time, propound questions and they are sent to the American Telephone and Telegraph Company, and at the time that the work was most actively under way there was an accounting committee composed of two representatives of the Bell System and two representatives of other telephone companies. They were known as the Accounting Committee of the American Telephone Companies, and conferences were held whenever questionhad accumulated, and there again they ruled or decided what answer should be made from a practical standpoint, and then we had conferences with the accountants of the commission, and I think in all instances they approved of the answers that were given to the questions propounded.

Q. Now, did you have a great many of those conferences?

A. I think there have been more than forty conferences since the circular w-s issued.

Q. And the American Telephone and Telegraph Company has represented the Associated Companies in that matter?

A. That's true.

Q. Mr. Blair-Smith, did you intrude yourself on the Interstate Commerce Commission when this law went into effect and go to them and tell them that you had the best system of accounting that they could adopt, or did they come to you and

ask your assistance in the matter?

A. The Bell system is of course the representative telephone system in the United States, and the Commission was perfectly aware—the fact that they must have some practical knowledge of the operation of the system and the Commission has sought the assistance of the American Telephone and Telegraph Company, which, of course, was readily and gladly loaned. The co-operation was mutually acceptable, but we did not in any way thrust ourselves upon them.

Q. Well, in the matter of the revision of these rules, and interpretation of the rules of the Interstate Commerce Commission, have a

great many of those questions arisen?

A. I have Accounting Circular No. 12 which publishes 189 questions and answers that were raised by the Associated Companies and were answered in the manner that I have i-dicated.

Mr. J. D. Frank: We offer that in evidence as plaintiff's exhibit No. 138.

(The circular was thereupon received in evidence, marked "Plaintiff's Exhibit No. 138, Witness Blair-Smith," and is filed herewith.)

(By Mr. J. D. Frank:)

Q. Now, where any of these questions arise in the field or in the territory of the Associated Companies they refer them to the American Telephone and Telegraph Company and the American Telephone and Telegraph Company gets the matter straightened out with the Interstate Commerce Commission?

A. If it requires a ruling by the Commission it does, and when it secures that ruling it distributes it to all of the companies of the system, and when we have accumulated a sufficient amount for printing they are then issued in the form of a printed circular for distribution to the Associated Companies and are indexed in different ways with reference to the printed answers and questions repeatedly found.

Q. Is it necessary to secure the consent of the accountants of the

Interstate Commerce Commission in order to make a change in the system?

A. Well, the circular itself cannot be revised without action of the Commission itself; the accountants haven't the authority to revise the circular.

Q. You put the matter up to the accountants and then the Inter-

state Commerce Commission-

A. (Interrupting.) No; for an interpretation we go to the accountants, but if there is a change in the system the Commission it-There have been very few changes made in the circular.

Q. Well, now, when these questions arise are they carefully worked

out?

823

A. They are worked out with a great deal of care, and it is necessary to have very practical experienced telephone accountants to work The Commission has always acknowledged the fact that it was necessary in all undertakings of accounting questions to get the opinion of practical telephone people; those that are doing the work-those that are on the job.

Q. Will you take the exhibits and mention one or two questions that have arisen and tell us something about how they are worked

822 A. Well, here is question 27 as an instance: (Reading from circular:) "Question. Section 9 of the General Instructions, Accounting Circular No. 8 provides that all property having an expected life of more than one year (except small tools) shall be charged to fixed capital. There are other items of small value, which, while having an expectation of life of more than one year, are difficult to keep record of and are likely to be lost. May such items be charged directly to operating expenses?" "Answer. Individual items of small value (e. g., amount to less than \$5) classable as general equipment under Accounts 261 to 265, even though having an expectancy of life of more than one year, may be charged direct to the operating expense accounts or through the clearing accounts." You see the circular is pretty rigid as to what shall be charged to construction or capital accounts, or what shall be charged to operating accounts; that is, maintenance, commissions, and so forth, and it was necessary to get some relaxation for if these small items were charged to construction account or capital account it would be necessary to take an inventory from time to time and when they were found missing to trace them down, and it may not be worth all the work necessary to trace them and so we were permitted to charge them to capital accounts upon purchase or upon being issued.

Q. Why was there any doubt about that question mentioned there?
A. Because under the requirements, under the circular itself, which stated that tools having a life of one year or more must be charged to capital account. Now, then, they amended that to the extent of permitting tools having a small value or a life even more

than a year to be charged to expense.

Q. Well, now, the rules are enforced by the Interstate Commerce Commission, are they?

A. The rules are enforced. The law requires the telephone com-

panies under penalty to conform to the requirements, and if we depart in any way from the requirements it must be done in a lawful way, or the requirements must be changed.

Q. The Interstate Commerce Commission have representatives who inspect the books from time to time to see whether or not the

law is being complied with?

A. They have examiners, and one never knows just when they will come and make an inspection.

Q. They are just like a bank examiner, and are liable to drop in at most any unexpected time?

A. Yes.
Q. Does the Interstate Commerce Commission require any reports

of any kind from Associated Companies?

A. There is a monthly report of revenues, expenses, taxes, additions to capital, required from each company, and then there is an annual report which is in considerable detail required from all interstate companies,

Q. What, if anything, has the General Staff had to do in the

matter of these reports?

A. The Interstate Commerce Commission accountants have sought our assistance in formulating most of the reports. The monthly report is rather a simple affair, but it is brief and at the same time indicates what the company is doing in the nature of operating revenues and operating expenses. The annual report is a report as I say in considerable detail. It requires some-

thing of a drag-net; it goes through every account and makes you explain the account and if there is anything unusual to

give it in detail. You must give all the holdings of the corporation, you must give the directors, you must give the largest stockholders, you must give the operating revenues, you must give the operating expenses, you must give the reserve accounts, the construction accounts in detail, the capital issues in detail, showing what you have got from the sale of your stock, what you have got from the sale of your notes, bonds, and what transactions you have had in those during each year. What new securities you have purchased, if any, in fact a drag-net which undertakes to take a history of the transactions,—the operation for the year in question. They have even asked for the number of accidents, the classification of accidents, the period of time that the employe is off duty, and they ask for a classification of employes by occupations and by wages.

Q. Well, now, have the General Staff done anything in the matter of assisting the Associated Companies in making up these reports or tabulating the reports which are satisfactory to the Interstate Com-

merce Commission?

A. They have. I might go back just a little into the details. The first report, I think, was for the year 1914; it was quite an elaborate affair. When we got into the war the report for 1916 was due and it was considered what they would require; the Commission realized the fact that it would not be fair to the companies to attempt to have so elaborate a report while the companies were losing their

employes on account of war service and other duties, and so they asked our assistance in condensing the requirements of the report, and so it was made less elaborate. That report, I think, has he-d good down to the present time, with this slight modification, from year to year.

Q. Does the Interstate Commerce Commission have any rules

with reference to destruction of records?

A. The Interstate Commerce Commission required the Company to furnish schedules of their employes classified by occupations and wages. The American Telephone and Telegraph Company realizing that was a job that could be done by machines better than otherwise made a suggestion to the Associated Companies that they send simply copies of their payrolls which are always made with machines,—addressographs—to the general office and there we would keep a card for each employe of the system; that card would give all of the required indoemation necessary to make the answers to the Interstate Commerce Commission, and by the use of sorting machines and computing machines we prepared all of the information for each Associated Company, and we do that regularly.

(By Mr. Duls:)

Q. Do you mean, Mr. Blair-Smith, that the machine picks out the card?

A. The machine picks out the card wanted under the various classifications.

Mr. Howard: We have heard all about that.

(By Mr. Duls:)

Q. Was that an invention of the General Staff?

A. No. sir.

(By Mr. J. D. Frank:)

Q. Mr. Blair-Smith, have you an exhibit with reference to that matter of classifying employes?

A. Yes,—Accounting Bulletin 108-A, called "Standard Occupational Classification of Telephone Employes," is issued for the Bell system by the American Telephone and Telegraph Company.

Mr. J. D. Frank: We offer that as plaintiff's exhibit No. 139.

(The Bulletin was thereupon received in evidence, marked "Plaintiff's Exhibit No. 139, Witness Blair-Smith," and is filed herewith.)

A. And it is the classification of all the employes, showing titles and the nature of work done by the employes grouped under each title. You realize that the Bell system has over 200,000 employes, and if we are to have any uniformity of detail or statistics affecting the employes it is necessary to classify them and that they be given

their definitions very clearly so that all classifications will be con-

Q. Well, now, coming back to the other matter about the destruction of records; does that affect the accounting department in any

way?

A. Of course, with a business as large as ours, where we have hundreds of thousands of transactions a day, there is a great accumulation of records that are of no value after a short period of time. The Federal Law requires that no records of any kind of corporations under the jurisdiction of the Interstate Commerce Commission shall be destroyed without the consent of the Commission. have been two issues of a circular authorizing the destruction of the retention of the records of telephone companies, both of which were worked out by the Interstate Commerce Commission accounts as-

sisted by the General Staff,-employes of the General Staff. The latest one has just been issued and we think it is very 827 much superior to the original and will be a great relief to the Associated Companies, giving them a good deal of authority over records that can be of no possible value to public authorities.

Q. Now, have you rendered any service to the Associated Com-

panies in the matter of a census of employes?

Q. Now, have you rendered any service to the Associated Companies in the matter of a census of employes?

A. Censuses of employes are usually taken once a year or every

two years.

Q. Why do they take those censuses? A. They are used for quite a number They are used for quite a number of reasons. One is that we must report these certain facts in connection with employes to the Interstate Commerce Commission; second, we have a Benefit Plan, benefit scheme which requires statistics for its proper demonstration. In the first place, saw that he can show the corporation where it stands in relation to the employees on account of the benefit system, whether it has reserves sufficient to protect them. reasons, such as the relation of sickness to the member of employees, the relation of accidents to employees, the knowledge as to whether your force is staying with you, that is, the period of service, the average period of service of your operators, the average period of service of your plant men, and furthermore, your average wages to see if we are treating our employees fairly in different sections of the country in the matter of wages, and, of course, if the period of service is greater in some sections than others there must be some-

thing wrong in the sections where your employees won't stay 828 with you. It is very necessary for the proper administration and in fairness to the employees themselves to have these

censuses taken from time to time.

Q. Now, what assistance has the General Staff rendered the Asso-

ciated Companies in these matters?

A. In the taking of the censuses it can be done by one corporation better than it can be done by each for itself, and with the use of these voting machines and tabulating machines we are able to relieve the Associate Company of an organization to do that for themselves, upon their furnishing us the information, which can easily be done with a list of their employees and certain facts in connection with the records.

Q. You mentioned a few minutes ago the Benefit Plan,—the Southwestern Telegraph & Telephone Company has what is known

as an Employees' Benefit Plan, has it not?

A. It has.

Q. Did the American Telephone & Telegraph Company have anything to do with it with reference to the organization of that plan?

A. The American Telephone & Telegraph Company's employees or officials spent considerable time in devising the plan in conjunction with a number of meetings with representatives of the Associated Companies, and a plan uniform throughout the whole system was adopted. The effort is to give protection to an employee, no matter what company of the Bell System he works for. If he transfers from one company to another, we want him to have exantly the same protection in every company, and it is necessary, on that account, to have a uniform plan and to see that the plan is administered in a uniform manner.

Q. Now, the longer an employee is working for the Company, the more benefit he gets in case of sickness, accident, death, and

829 things of that kind?

A. Yes, sickness is graded on the period of service and up to a certain point after an employee has been with the Company five years he gets the maximum; and as to death, that's on the basis of service, and as to pensions, that's entirely on the basis of service and pay.

Q. How about accidents?

A. Accidents,-no.

Mr. Howard: What has that go- to do with this proposition?

Mr. J. D. Frank: I am just showing one of the benefits the Southwestern Company received from the American Telegraph & Telephone Company. If you concede this is justified, I will not—

Mr. Howard: I won't concede anything.

Q. Now, if an employee has been working for one particular Company for five or ten years, and then goes to work for some other Company in some other State, his period of service remains unbroken?

A. If he clings to the Bell system.

Q. Now, what work, if any, has been done by the General Staff of the American Telephone & Telegraph Company in the matter of Federal Income, State Capital Stock Tax, Income and other taxes?

A. The General Staff has a specialist who is in close touch with the authorities in Washington, and who is prepared to take up any questions that the Associated Companies may have in connection with this; given advice about the method of valuation

for the purpose of Capital Stock Tax returns, and for the Income Tax it is necessary for each corporation, under the present law, to send its Income Tax return to a central place, and there a single

return is made for the whole system. The law requires, I think, where there is control of the company, that that company must be treated as a system corporation, and all these tax returns come into the American Company and there are combined into one return. I am told that the return that was made by the American Telephone & Telegraph Company in 1918 had more corporations in it than any other return sent to Washington.

Q. Then, in connection with matters handled in Washington instead of the Associated Companies having to send representatives up there, the American Telephone & Telegraph Company represents

them in those matters,-is that true?

A. That's right.

Q. The American Telephone & Telegraph Company does that at its own expense and without extra charge to the Associated Company?

A. That's true.

Q. Is there any distinction between the accounting regulations issued by the Interstate Commerce Commission and those included

in your Circular No. 8, in the accounting methods?

A. The accounting methods is a difference thing from accounting requirements. Accounting methods cover the method,—the way you get at the results,—the routine that you must go through in order to ecure the results. For instance, you may be required to charge the labor of employees engaged in construction work to

Construction Accounts, but the method of finding out and 831 having that employee's report from day to day what he does, so that you will know whether he is engaged in construction work or maintenance, is the method by which you get at

the facts.

Q. Well, has the Interstate Commerce Commission designed any system of giving the Telephone Company anything in the matter of accounting methods?

A. It has not.

Q. Has the General Staff done anything along that line? If so, what?

A. The General Staff has devised what is called Accounting Bulletins which deal with methods for achieving the various functions of the Accounting Department. To make it clear, I might illustrate in this way; we, of course, must keep accounts with telephone sub-I suppose, before any effort was made at systemization, that every telephone company had a difference method of keeping its accounts with each subscriber. The American Company employed specialists, and it is a very difficult matter to get men who thoroughly understand methods and returns as applied to a unionwide system, to get these men to go though the methods followed by each of the companies, to pick out the best or devise something still better, and to make what is known as a standard method. These standard methods have been offered to the Associated Companies; some fifty different circulars have been issued and these methods have been offered to the Associated Companies and they have been accepted as being superior to what was in existence before.

Q. Well, is there any assistance rendered besides this matter of revenue accounting in connection with bills?

A. We have issued method routines in connection with every important obligation of the Associated Companies, such

832 as accounting for station equipment estimate forms, and records for their provision, estimate or budget for each year, and methods by which they are to get together on programs of work for the year and determine what it is going to cost them and where they are going to get the money. The vouchers,-in connection with vouchers which are issued for all expenditures, the method of handling detail distribution of the vouchers; methods for the handling of employees' working funds, which are advanced in order to enable them to pay their expenses in the field. All together, there are some fifty forms issued in connection with this to make accounting as simple as it is possible to make it. There are several Hundred. It ought to be explained,-when you get all these together and talk about it, it sounds very complicated, but then you will find that the employees only deal with a few of them. A man in the plant department has his routines; an employee in the commercial department has his routines; a man in the operating department has his routines, and they all understand the routines thoroughly and there are very few that touch each man.

Q. Now, do you ever send out any men from your department to

assist the Associated Companies in accounting matters?

A. We do when they are required. We send them usually to the general headquarters, and these men are traveling around generally most of the time. I might illustrate by this,—that we sent, some time since, several men to the the headquarters of this Company at St. Louis; they were to make a study of keeping subscribers station ac-

counts. At the time that they went there they found out what it was costing for each station, and after the system that was adopted, which is covered by the routine that I have

spoken of,—after that was adopted and put into effect it was found that the cost of keeping each account per month was reduced by more than 3 cents, that is, the cost was reduced more than 36 cents per station per year. That is only issustrative of what it means to get the best that can be devised, rather than taking something that seems to fit.

Q. Now, does the General Staff render any assistance to the Associated Companies, including the Southwestern Company, in the mat-

ter of annual audits of its books?

A. The General Staff has a force of about twenty traveling auditors; These men are experienced telephone men, selected because of their experience in auditing and of the nature of the business, and the accounts of every Bell Company are audited annually.

Q. Now, do those men make the audits, or simply assist the local

accountant to make the audits?

A. Those men have nothing to do with the local accountants; they simply see that the general officers of the Associated Company follow the regulations of the Interstate Commerce Commission, that

is, check them for honesty of handling funds and honesty of accounting, and see that their local requirements have been carried out.

Q. How often are those audits made?

A. Once a Year.

Q. Why is it necessary to have these audits, Mr. Blair-Smith?

A. I think that is self-evident. I believe every business of any size that is well conducted has independent accountants to come and audit its affairs every year,—it is customary.

Q. Do they usually have that done by someone else, or by 834

someone within the organization?

A. That's done by an independent organization or individual not employed by the corporation that is being audited,-they are not subject to the jurisdiction of those whom they are auditing.

Q. Now, that service is performed by the General Staff under this

license contract, is it?

A. It is, without additional charge to the Associated Companies.

Q. Has the General Staff a Statistical Department?

Q. Explain just what that Department does.

The Statistical Department is really the Statistical Department of the telephone business. It acts on very broad lines,-for instance, that Department keeps in touch with the development of the telephone undustry all over the world. They have something like eleven hundred titles, which include reports issued by foreign governments in regard to telephone affairs. In addition to that, the Statistical Department has a kind of library a business library of some seven thousand titles. The Statistical Department is engaged in making comparisons of units between the cost of operation of each of the Associated Companies. It prepares schedules which are sent to the operating officials and enables them to see how well they do their job. The Statistical Department is the one which handles the facts regarding all cases of accident, all cases of sickness among employees of the Bell System, with the effort of cutting out accidents, publishing those various kinds that are similar, so

that studies may be made to eliminate that kind of accident. Also with a view of determining whether or not there is any 835

particular kind of desease that is affecting telephone em-There never has been found what is termed an "occupational disease", but they keep their hand right on it so that the doctors at the head office may advise some method by which the different diseases can be prevented. The Statistical Department also publishes each month what is known as Business Conditions Report. It is necessary, in a great business of this kind, to look ahead as far as you can and study your methods of financing and study what financing is going on outside, and this Business Conditions Report deals with the Conditions of the markets throughout the United States,-the steel industry and copper industry. Of course, we have to buy great quantities of steel and copper and other materials, and it is with the idea of determining, if possible, when to buy them and what should be paid for them, -whether the tendence is up or downward. Also watching closely the progress

of the business itself and the conditions of the telephone business itself. They make these studies in connectio- with employee censuses: the Federal Government each five years makes a telephone census of the United States. The representatives of the Statistical Department have always dealt with the Census Department in Washington in connection with that matter, and usually find each five years new men in charge making the telephone census and who have had practically no experience in the telephone business; and they are always ready and willing to avail themselves of our experience and as-istance, understanding what it is, as they want to make the telephone censuses as near exactly alike as possible.

Q. Now, the General Staff gets up these census reports for the Southwestern Telegraph & Telephone Company?

A. The reports for the year 1917, which is the latest one that was made, were prepared by the General Staff,—by the Statistical forces, very little date being required from the various Associated Companies; that is, the regular monthly reports or annual reports of the Associated Companies were such as to readily give the date required.

Q. What benefit is it to the Associated Company, aside from the

census reports?

836

A. Why, I believe it is necessary in order to operate the business economically and satisfactorily and efficiently, to have such statistics, and that is one thing the Company can do better for the chole system than each company could do it for itself. I think that the advantage in it, that they are not required to turn their attention or strain their energies to things of that kind, but have it taken off of their hands by the General Stæff for the Bell System.

Q. Does the General Staff engage in any work for the benefit of

independent Companies?

A. It does not.

Q. All of its work is done for the benefit of the Associated Comanies.

A. It's done for the benefit of the Bell System, yes,

Q. Now, can you mention some specific service rendered by the Statistical Department other than the ones already mentioned? What I had in mind is representation before the Priority Board.

837 A. Yes, in 1917, when the Priority Board required——
Mr. Howard (interrupting): There is no Priority Board now, is there?

Mr. J. D. Frank: No.

(By Mr. J. D. Frank:)

Q. Go ahead, Mr. Blair-Smith.

A. In 1917 the Priority Board was requiring each industry that wanted materials,—raw materials, to show the necessity and why it should have them at that time. The telephone companies needed raw materials very badly for their extensions, and the General Staff

presented such information as was necessary to Washington and secured authority for such raw materials as were needed under restrictions. At the same time there was new capital needed in the System and it was necessary for the General Staff to present before the Capital Issues Committee the rights of the telephone interests to absorb capital from the market when the Government was floating its various bond issues. I might state that at the same time, that is, during the period of the war, the Bell Telephone System assisted the Signal Service Department of the Army—

Mr. Howard (interrupting): What's all thia got to do with this,

your Honor?

Mr. J. D. Frank: It has this much to do with it: We are showing what services have been rendered by the American Telephone & Telegraph Company for the Associated Companies, work that they, themselves, would have had to have done except for 838 this service. The American Telephone & Telegraph Com-

pany did this work for the Associated Companies.

(By Mr. J. D. Frank:)

Q. Go ahead, Mr. Blair-Smith.

A. The General Staff of the American Telephone & Telegraph Company co-operated with the Signal Service Department by furnishing what the Government needed. At the same time for every and where they could best be spared, thus relieving the Associated Companies from absolutely disrupting their organization, and furnishing what the Government needed. At the same time for every employee of the Bell System private information was furnished to the Washington authorities as to his experience and his ecucation, so that he might be placed in the very best position, in so far as the Government was concerned.

Mr. Howard: Your Honor, what has that got to do with the service rendered by this local exchange? There should be some

way of keeping within reason.

Mr. J. D. Frank: If your Honor please, as the witness is trying to explain, the United States Government called on the Associated Companies, including the Southwestern Company, for this information, and instead of the Southwestern Company having to work up all of this data, and going before this Priority Board amd the branch of the Government that had charge of this Signal Service work, that work was done by the General Staff under this license contract; and what we are trying to do here is to show what services have been rendered and are being rendered under this license contract.

Mr. Powell: Did the Government call on the little local

exchange at Donroe and-

Mr. J. D. Frank (interrupting): No, they called on the particular company, and the companies necessarily would have to get this information for the Government.

Mr. Howard: It is something entirely in the past, and soden't

exist now

839

Mr. J. D. Frank: Do you say that is is not material if real service

was rendered by the American Telephone & Telegraph Company

which relieved the Associated Company of doing anything?

Mr. Howard: I don't think it relieved us of anything. We are burdened down here and absolutely rendered intolerable by your charges that this little company is carrying to such an extent that you can't operate on account of all these added charges and these carrying charges that you are piling up on us.

The Master: It might be material; go ahead.

(By J. D. Frank:)

Q. Go ahead, Mr. Blair-Smith, if you have anything else to say. A. Well, it develops his experience also in carr-ing on his work, so that when he returns he will be of more advantage to the Associated Companies. That, I think, is enough information of what the

Companies. That, I think, is enough information of what the Statistical Department does along these lines. One very important thing I have omitted, and that was, during the period of Federal control of telephone property there wasn't any Department that the

Federal control affected as it did the Accounting Department; it meant that the Government was the operating factor of the telephone properties and that the corporations continued to own the properties and built the properties. The Government operated them, received the revenues and paid the expenses, and it was necessary to keep entirely separate the functions of the Government and the functions of the telephone companies. The General Staff handled this whole matter for the Associated Companies. It first made the contract for just compensation with the

Postmaster General.

Mr. Howard: Where did you get that just compensation?

A. That has always been used in the President's proclamation and the law of Congress. The law itself has always spoken of it as "just compensation."

Mr. Howard: Would you mind stating right there, so as to get it

in the record, what that compensation was?

Mr. J. D. Frank: We have already got a copy of the contract in the files of the original case and you have seen a copy of the contract. It was attached to our petition.

A. Will you let me finish my answer first, please?

Mr. Howard: Yes sir.

A. As I say, the General Staff entered into the contract with the Postmaster General for the Bell System as a whole, relieving the Associated Companies of this work. It devised a method by which

the accounts of the Government and the accounts of the corporation might be kept in the same set of books, all with the concurrence of the accounting forces of the Postmaster General's Department, and it negotiated the settlement with the Postmaster General for the System; it took care of all accounting details, all questions that arose in connection with this matter, relieving the Associated Companies absolutely of that burden. Now, to answer your question, the contract in brief, and the best that anyone could give it from memory, was;

First. That the Government would provide depreciation reserves equivalent to the depreciation reserve set aside by the System for an average of three years; that was, I think, averaged 5.72% of the value of the property,—the book value of the property, and the Postmaster General was to pay to the American Telephone & Telegraph Company the license revenue exactly on the basis by which it has heretofore been paid by the Associated Companies.

Mr. Howard: Four and one-half per cent?

A. Four and one-half per cent, and in addition to that the Postmaster General was to pay to the Bell System an amount as just compensation equal to the dividends paid on the stocks outstanding and in the hands of the public for a period of three years, the interest and amortization charges on the securities outstanding and in the hands of the public.

Mr. Howard: Eight per cent dividends were guaranteed?

A. Eight per cent dividend was guaranteed.

Mr. Howard: Dividends to the stockholder, and in addition to

that, the sinking fund for interest?

A. No sinking fund. A fund to take care of the interest and what we called the amortization charges, that is, the designated charges.

Mr. Howard: Pay the interest charges on the bonded indebted-

ness, in addition to the 8% paid to the stockholders?

A. Exactly; and if bonds had been sold at a discount, the amount of the discount applicable to the year of Federal control. In addition to that the Postmaster General was to maintain the properties in the same state as that in which he received them.

Mr. Howard: That was all I wanted to get,-that just contract.

(By Mr. J. D. Frank:)

Q. Mr. Blair-Smith, what do your records show as to the date when the first stock interest was acquired in the Southwestern Telegraph & Telephone Company by the American Telephone & Telegraph Company?

A. In the year 1899. Q. That year 1899—

A. (Interrupting.) 1889,—beg your pardon. At that time less than 30% was acquired by the predecessor of the American Telephone & Telegraph Company.

Q. Now, have you ever hade any study or investigation to ascertain what money is costing the American Telephone & Telegraph

Company in 1913 and 1914?

A. In 1913 and 1914 I made a study that covered a period of ten years from 1902 to 1912, and there I took the cost of money, that is, the actual money that the Company had been able to secure.

which was several hundred million dollars, and I considered the cost of the money, the dividends paid on the stocks out-

standing and the interest paid on the stocks outstanding and the interest paid on the amortization charge, the amortization of the bond discount applicable to the particular period and for the ten years the money averaged $6\frac{1}{2}\%$.

Q. That was from 1902 to 1912?

A. Yes

Q. Now, what has the American Company been paying for money

since that time?

A. If the same kind of study was made up to the present time, it would show that the money was costing the American Telephone & Telegraph Company more than that. The most recent loan made the American Telephone & Telegraph Company was one for \$50,000,000.00 on October 1st, 1918. We sold these notes, three year notes, at a discount of \$3.00; that is, we got \$97.00 for them, which was about 7.25 basis,—a little less than 71/4%. Those bonds were sold at that time at that rate, but at the present time the bonds are selling on the market on a basis of 73/4%. Of course, dividends of 8% continued, and I think that we calculate the cost of money the Company now had in its assets, or cost of what the Company has, it would be over 7%.

Q. Well, how does the American Company secure money?

A. It secures money, generally, in several ways,—the Bell System it might be said, secures its money mainly through the sale of the securities of the American Telephone & Telegraph Company, and that money goes to the Associated Companies, the American Company accepting their securities for it. In some instances the

Associated Companies have outstanding in the hands of the public their bond issues, first mortgage bond issues, and some few of the companies have their stock outstanding in the hands of the public, but by far the biggest part of the financing for the System has been done by the issues of securities by the American Com-

pany,-securities of its own.

Q. Then, how does the Southwestern Company, and other Associated Companies, get this money from the American Telephone and Telegraph Company?

A. As I explained, by loans on their notes, or by the sale of their

stock to the American Company.

Q. Well, where loans are made to the Associated Companies by the American Company, what do the Associated Companies pay for this money?

A. For the past few years the Associated Companies have paid, uniformly, 6% for the money,—the American Company gives them

a discount of 2% if they pay their note monthly.

Q. Now, does the American Company sometimes teke up securi-

ties which are issued by the Associated Companies?

A. Back in 1916 the Southwestern Telegraph & Telephone Company owed the American Company something over \$5,000,000.00; money was fairly cheap at that time and the American Company surrendered \$5,000,000.00 of its notes,—the Southwestern Company's notes, and took for them two-year $4\frac{1}{2}\%$ notes of the Southwestern Company.

Q. What was the Southwestern Company paying on that \$5,000,-

A. It was paying 6%. The notes were sold on the market and the benefit for the reduced price was given to the Southwestern Company, a saving resulting for the two years of \$38.

000.00. When these notes fell due the American Company paid them off and the Southwestern Company owned some other securities, which the American Company took in payment of the notes, that is, bought the securities from the Southwestern Company, providing it with the funds in order to do that.

Q. Well, has there been any financial transactions of any magni-

tude of recent date?

A. During the year 1919 the American Company loaned the Southwestern Company \$1,658,960.00, and in January of this year it loaned the Southwestern Company \$200,000.00 on its 6% notes. All of these loans were made on 6% demand notes of the Southwestern Company. It is interesting to say that for the year 1920 the Southwestern Company will want \$4,500,000.00 of new money in order to take care of the business in Texas.

Q. Is any part of that applicable to Houston?

A. The estimate made shows that the city of Houston, itself, will require an expenditure of \$500,000.00 on its plant in order to take care of the extensions and growth for the year 1920.

Q. And the Southwestern Company gets that money at 6%.

A. The Southwestern Company has gotten it at 6%; there isn't any pledge under the $4\frac{1}{2}\%$ agreement that it will, but the American Company has always loaned it at least as low as 6% where it was able to get the money.

Q. Now, whenever the American Company issues securities and sells them, does it get 100 cents on the dollar on those securities?

A. It does not. As I explained, it sold its own three-year notes in October, 1917, at 97 cents on the dollar,—they were 6% notes.

Q. You say the American Company has never charged the Southwestern Company more than 6%?

A. I think that's true. That's true for the past ten years I am sure.

Q. What is the highest rate of interest that you know of that has even been paid by the American Telephone & Telegraph Company?

A. Well, back in 1907, at the time of the panie, the American Company borrowed some money at 16¼%; had to borrow it on call,—it was call money. In recent years, the highest paid is 8.46%.

Q. Now, was the Southwestern Company borrowing money from the American Telephone & Telegraph Company at that time?

A. I haven't gone back that far. I can tell you this, though: As I said, the notes sold in October, 1917, cost 71/4%, and we have loaned money to the Southwestern Company since that time at 6%.

Q. Then you have loaned it to the Southwestern Company at

11/4 % cheaper than it cost you?

A. That particular money, but if you average the cost of money the American Telephone & Telegraph Company must include the cost of the stock, the dividends,—I don't think you ought to take out any particular lot of money; I think you should consider all the money of the American Telephone & Telegraph Company, and it would probably be an average of seven or seven and one-half per cent.

Q. What is the practice of the American Telephone & Telegraph Company in giving to the Associated Companies, including the Southwestern Company, the benefit of its credit in the

financial world?

A. The American Telephone & Telegraph Company has always considered itself as the financing corporation of the Bell System. It has advised with the Associated Companies in connection with their finances, as well as sold its credit on the market,—used its credit on the market in order to get the funds to carry on the telephone business. It naturally happens that some sections of the country are less prosperous than others, and a uniform rate has always been made by the American Telephone and Telegraph Company to the various companies; those who can afford to pay more have paid more, and those who have not earned it have paid less. The Southwestern Company has earned and paid less than the average of all the companies of the System.

Q. Have you any figures there with reference to how much money the Southwestern Telegraph & Telephone Company has borrowed from the American Telephone & Telegraph Company in recent

vears?

A. From 1912 to 1919, inclusive, the Southwestern Company has borrowed \$13,763,000.00 from the American Telephone & Telegraph Company.

Mr. Howard: How much? A. \$13,763,000,00 actual money.

(By Mr. J. D. Frank:)

Q. And what was the highest rate of interest they paid on that money?

A. Six per cent.

Q. What are the chief assets of the American Telephone & Telegraph Company?

A. It consist of stocks and notes of the Associated Com-

Q. In financing, how does it give the Associated Companies the Benefit of its credit?

A. By borrowing money on its own credit and lending that money

to the Associated Company.

Q. Now, what difficulties, if any, would the Southwestern Company have in financing itself if it were independent and had to go out in the open market to get money for the purposes of extensions?

A. The Southwestern Company would either have to go into a local market, or go into a market and be in competition with all the other companies of the Bell System,—all other telephone companies; it would have to have an organization to take care of such financing; it would have to issue its stocks and its bonds to many individuals,

incurring this expense of selling its securities after they were issued,—must have an organization to take care of the payment of dividends and take care of the transfers of stock, take care of the payment of bond interest; it would incur the expense of figuring in advance its needs as to the actual money required, whereas, at the present time as it needs the money it calls on the American Telephone & Telegraph Company and has, in the past, always gotten it and gotten it just as it needed it, by being able to make its plans year by year and looking forward a year at a time, and has known that it would get the amount of money that the plans called for. It has been able to organize its construction forces in a more elastic manner and keep these forces engaged and busy during the whole

849 period of time. Of course the employees, knowing that their tenure of office is constant, have stuck by the Company, have become experienced, and they are more loyal, understand the work better than if they were fluctuating in and out, and so I think every advantage has been achieved through the methods of having the American Telephone & Telegraph Company, or one company do the financing for the whole System, rather than have each Company in the market competing with the other companies in carring on this work, which they would naturally do.

Q. Mr. Blair-Smith, would it be easier or harder for this local exchange to operate, to finance itself, if it were standing alone and and not a part of some system, such as the Southwestern Telegraph & Telephone Company,—if it was just a local independent exchange, could it finance itself as well as if it were a part of a large com-

pany?

A. We have always found that the larger territory covered by a particular business, the easier it is to finance, because one city or one locality has its ups and downs. The whole country may have its ups and downs, but it is not as likely as the best of towns or one locality, and by having the steadying influence of a nation-wide organization, so that those communities that are suffering at one time are being helped by communities that are not, and those communities that are prosperous, of course providing the citizens during the times of prosperity,—there has been more even distribution, more even development and better service furnished to the public, I should say, comparable with one little State as against the whole United States,—they are more solid and more powerful.

Q. Now, you are accustomed to dealing in these financial matters. There has been an exhibit intorduced in evidence in this case, showing that from the time of the organization of this Company, from the year 1883 on down to the year 1919, the average dividends paid by the Southwestern Telegraph & Telephone Company was 5.36%. In your opinion, could a telephone company which had been paying an average dividend of that amount go out into the open market and borrow money at 6%, as the Southwestern Telegraph & Telephone Company has borrowed it from the American Telephone & Telegraph Company?

A. I don't think so.

Q. Count it sell its stock at par?

A. I don't think it could sell it in this locality at par, and I don't think it could sell it in any locality at par,—I mean at any time. Of course, I know it couldn't now, but would have found it very difficult to do so. This company has been kept free of mortgages and its financing has been done mainly through stock issues. It has at the present time about \$35,000,000.00 of stock, \$3,000,000.00 of notes and \$1,000,000.00 of bonds outstanding.

Mr. Howard: What company is that?

A. The Southwestern Telegraph & Telephone Company. If it had attempted to finance itself, the Southwestern Company would have had to have gotten its money on first mortgage bonds and would have had difficulty in raising the money on their own security, unless they should pay a very much higher rate than 6% or 8%, I think.

851 Q. Now, aside from the matter of credits, is there any advantage to the Associated Companies in having their financing done trough the American Telephone & Telegraph Com-

pany?

A. I think it's a more economical method of financing. As I explained, that is, it doesn't require the same organization in the Company if it gets its money from the American Telephone & Telegraph Company,—all its dividends are paid to the American Telephone & Telegraph Company and all its interest charges are paid to the American Company instead of widely scattered and a large number of separate individuals.

Q. Didn't you also say that on account of this financial arrangement you do not have to keep employees, such as secretaries and treasurers, whose duties are to look after the securities that are

issued?

A. They, of course, have a Secretary and Treasurer, but they don't have these functions; they take care of other work and do not have to have the office forces that it would be necessary to have and that they would need if they had to go out and get the money.

Q. Do financiers make any distinction with reference to making loans to a business and where they make loans that go into a busi-

ness where there is a hazard incident to the business?

A. Of course, the first distinction is borrowing, for instance, a merchant borrows funds on short time, it being known that he going to use the borrowed money to carry his stock of goods until he sells it, and when he sells it he will liquidate his debts,—he had the money to liquidate it; but when an organization, or when a

telephone business borrows money it doesn't borrow it to carry a stock of goods, but borrows it to invest it permanently

in plants, and they must issue securities, permanent securities or as nearly permanent as it is possible to make them. The best financing possible is issuing capital stock. The next best is long term bonds, and, of course, the least desirable is short term notes, but they are more desirable when rates are very high than to issue long term notes at high rates.

Q. Do you have to pay a higher rate of interest on money that is

to be put into a business in which you take a risk and which has

a hazard incident to that business?

A. The security is graded by the market on the basis of its soundness,—on the basis of returning the money to you at the time you want that money, and, of course, capital stock is what is known as a junior security. First mortgage bonds are a first mortgage and they must be met before any money goes to anybody else when they fall due. If that is not done, then the property becomes the property of the owners of the bonds, and the stronger the security back of the particular property, why the lower rate of interest is charged or accepted on the security.

Q. Will you briefly refer to come of the hazards incident to the

telephone business?

A. Why, I think the greatest hazard in the telephone business is regulation during these times, and they are critical times. Any other business other than a business which is publicly regulated has to charge what the business must have,—must absolutely have in order to get along. At the present time the telephone business is not permitted to make its rates such as people are willing to

853 pay, but is compelled to make its rates that it is permitted to make by the regulating bodies; the merchant changes his prices from day to day as the labor market changes, but the labor market changes for the telephone business just as rapidly as it changes for the manufacturer or merchants, but a telephone company isn't permitted to change its rates as that labor market changes.

Mr. Howard: But it hasn't the competition of other business?

A. The public authorities, that is, not only public authorities, but the public itself has, I think become sick of the work, what's known as telephone competition throughout the United States, and think

they have so expressed it, -it is naturally a monopoly.

Mr. Howard: But whatever the cause, it is a fact that it is a monopoly and competition is eliminated, and they don't have that hazard that is incident to individual enterprises and mercantile enterprises.

A. That's quite true.

(By Mr. J. D. Frank:)

Q. Does the fact that they have no competition relieve the situa-

tion in anywise?

A. I think the fact that they have no competition enables the telephone company to produce service cheaper to the public and more satisfactory to the publis. A business or value of a security is not measured entirely by the soundness, but by the property back of the security or the cost of reproduction of that property on the

basis of that that property is paying in dividends, and if there is no prospect of that company paying dividends or paying interest, why, people don't want the security,—you can't

sell it. This business is a growing business; the Bell System, as a whole, put into plants last year more than \$67,000,000.00 of new money, and it is anticipated that this year it will need at least as much. As stated, the city of Houston itself wants \$500,000.00.

The money markets are extremely critical, and unless a telephone business can go to the public with the assurance that it is going to earn its dividends or fixed charges, the public is going to look on it as unsafe. I think the telephone business, without expansion, will become anæmic, it will dry up, for without expansion, the public are clamoring for service they can't get and when that becomes a fact, I don't know what the results will be. It ought to be explained that when the telephone business grows and another station is added it isn't sumply a box on the wall, but it is the box on the wall plus the line to the central office, going through a cable or a conduit in the street and centering on the switchboard, every item of which is individual to that particular station, and for every station added an investment cost of somewhere between \$150.00 and \$175.00 is added to the plant.

Q. Now, Mr. Blair-Smith, the evidence in this case shows that the rates for telephone service in the city of Houston, with the exception of some eight or nine months, while the property was being operated by the Government, have remained stationary down to the present time; that the telephone company has had to pay increased cost of money, increased cost of materials and labor during all that

time, has it?

A. It has.

855 Mr. Howard: Those things are all self-evident. that it is a self-evident fact that everybody understands, and they couldn't avoid having done it if they had tried to.

(By Mr. J. D. Frank:)

Q. Now, Mr. Blair-Smith, in order for stock to sell at par, must it carry a higher rate of dividend than the interest on bonds? A. In order for stock in the same corporation to sell at par?

Q. Yes sir.
A. I should say that a stock, to sell at all, must command a higher rate than a bond, unless you are giving too much on a bond. main market consideration is that a bond will be paid, paying a lesser rate than the rate that is expected and required for stock. I think an illustration of this is the fact that the American Telephone & Telegraph Company's stock is paying 8%, is on the market and can be bought today, I think for 98, whereas, its bonds, that is if the rate is over 8% on the money you invest, and none of its bonds are selling at as high a rate as that,—some of the convertible bonds are selling at about 61/2% basis, and some of its bonds at 73/4% basis.

Mr. Howard: Mr. Blair-Smith, isn't it a fact that ordinarily the stock and the assets should coincide, unless there is a surplus, or something of that character, set aside,—why, the assets and the stock certificates, which are merely evidences of a certain pro rate part of the assets, they should coincide?

A. That the stock, plus the bonds, plus the guaranteed indebted-

ness plus the surplus, equals the assets?

856 (By Mr. Howard:)

Q. That's correct, technically, in accounting, but when you get down to analyze the proposition, the certificate of stock, you call them assets, but as a matter of fact thay are evidences of ownership?

A. We call them liabilities, but they are evidence of an equity in

the ownership.

Q. If a bond reduces the value of the ownership just that much, it is an encumbrance, and the facts are that they are always an encumbrance or a liability upon the stock, are they not?

A. Well, I think the assets are security for the bonds first.

Q. There is no question about that-

A. (Interrupting.) If your stock is actually paid in, if the stock is actually paid in and you have got your money for your bonds, you have got the amount of the stocks and bonds in your assets.

Q. Well, of course, that's true, but the fact that money is supposed to go into other assets, and that may or may not reduce the equity in the certificate holder according to the use that the bond is put to.

A. It ought not to reduce the equity of the stockholder.

Q. In this contract with the Government there was an 8% return guaranteed upon the stock; then in addition to that, that stock represented the assets, that is, the property; the owners of that stock were the owners of the assets burdened with the bonds. Now, if you take and you pay the interest on the bonds in addition to the dividends on the stock, aren't you adding to the fair return the amount of the interest which should be paid by and come out of the pockets, really, of the stockholders?

A. I don't think so. Let's take it this way; you sold your stock, and as a matter of fact the American Telephone & Telegraph Company got \$1.08 for every dollar's worth of stock on the market,—that \$1.08 has gone into the assets and the property sold bonds, and the proceeds of those have gone into the property. Now, then, you must pay the man who loaned you the money on the stock and pay the man who gave his money up for bonds. They must both be paid from the earnings of the property. Now, what the Federal Government—

Q. (Interrupting.) That wouldn't be true if all the stock is paid

in up to its par value and money borrowed on bonds?

A. That's what's been done in our case. As a matter of fact, in the contract that was executed with the Postmaster General, the Bell System gave up any idea of an operating surplus, which it has naver failed to have at the end of any fiscal year.

(By J. D. Frank:)

Q. In a few words, Mr. Blair-Smith, I wish you would sum up the services rendered by your Department to the General Staff of the Associated Companies.

A. Reviewing what I have already stated, and considering that I am testifying in connection with financial services as well as account-

ing services, a summary would be something of this nature: That the American Telephone & Telegraph Company has, through its organization and its credit, raised the funds that were necessary for investment in the State of Texas, and in the City of Houston, and loaned these funds to the Southwestern Company on its Securities; that that has been an economical thing, for the reason that one or-

ganization has financed the whole system and one organization has issued its securities: these sucurities are are taken care of and dividends paid; the transfers of stock are made and interest is paid by one organization; that through the fact that one organization has done it, there has been eliminated the competition between the Associated Companies, themselves, going on the market and bidding against each other in the territories in which they hunt for the capital that is there available. That has resulted furthermore, in each company knowing at the beginning of each year that the funds needed by it would be forthcoming and has been able to make its program according and to employ the help necessary to carry out that program and to give them steady employment. That the accounting system of the industry, as a whole, is uniform; that all of the work in connection with that accounting system that could be done by one company for all of the companies has been done by the American Telephone & 'Telegraph Company; that the experience of all of the Associated Companies has been accumulated in one, by one central organization the American Telephone & Telegraph Company, and the benefit and every advantage has been given to all of the companies. That all transactions with the Federal authorities in Washington for the Bell System have been carried on through the one corporation, the American Telephone & Telegraph Company, for all of the companies, saving them the time and expenses of sending their own employees to Washington. best possible systems which could be devised by human ingenuity for accounting have been undertaken and complied by the American Company for the Associated Companies, and they themselves have

859 Q. Well, now, is the Southwestern Company charged anything by the American Telephone & Telegraph Company for

this service other than the 4½% payment?

A. It pays nothing to the American Company other than the

41/2 % payment, except, as I say, for interest and dividends.

applied these systems to the operating problems.

Q. Now, just one other question and then I am through: Is it, or not, customary for big industries to have technical research work done, such as is done by the American Telephone and Telegraph Company?

A. I know of no large industry that hasn't its technical experts for the purposes of achieving better results and solving the problems

of developing the industry.

Q. Does the United States Government do any work of this kind?
A. I had a study made of the estimates of appropriations required for the service for the fiscal year of the United States Government ending June 30th, 1921, and there I find included the requirements

of \$59,000,000.00 for technical research in Washington. That is out of a total appropriation of \$2,856,000,000.00 in those particular Departments.

Q. So the American Telegraph & Telephone Company is not by

itself in carrying on this kind of work?

A. Yes, it is not by itself at all. That is subdivided,—technical research for internal use, \$31,000,000.00,—technical research,—\$21,000,000.00,—a total of \$59,000,000.00.

(By Mr. D. A. Frank:)

Q. Just what does this rate of interest paid by the Southwestern Company amount to, Mr. Blair-Smith when discounted by 2%?

A. 5.88%.

860 Q. That is what is actually paid by the Southwestern Company for this money?

A. Yes, sir.

Q. Mr. Blair-Smith, yesterday, in answer to certain questions as to the risk of the business, you said something with reference to regulations being one of the risks of the business. Do you wish to

enlarge on that answer?

A. I want to enlarge to this extent, that I don't fight just, intelligent regulation, but I do subject, and what I meant to say yesterday was, that I thought unintelligent and unjust regulation—just and intelligent regulation is the kind of regulation that this Company, or rather the American Company, has always felt was the proper regulation; that it was justified and necessary for a monopoly business; that it was necessary for a monopoly to have regulation, but that it should be the proper and intelligent kind.

Q. That it should be regulation that takes into account the needs of the Company as well as the needs of the public in having good

service?

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A. Exactly. It should regulate the public as well as regulate the industry.

Q. You mean that a fair rate of return should be earned by the Company, and that a rate should be fixed so that it should be fair?

A. I mean that the Company should be protected from the public, that is, should receive fair compensation, and the public protected from the Company and not forced or permitted to pay more than a fair rate of return.

Q. Have you anything in your files that would tend to indicate what New York financiers and bankers think about

what a perfectly good property ought to earn in the City of Houston?

A. Just before leaving my office I got through the mails a copy of a circular issued by Harris, Forbes & Company. I believe there is no house that handles bonds that stands higher than Harris, Forbes & Company. They do not deal in stock and simply handle bonds,—is a bond house and has been for years, and they are just advertising an issue of \$900,000.00 of Houston Gas Company first mortgage 7% gold bonds, and they have offered those to the public at a price yielding to the purchaser a return of 8% per annum.

They recommend these very highly, indeed. They are a first mortgage on the property, they have back of them over three times their value in assets and the earnings of that property are reported as more than three times the amount of the interest charges.

Q. That's in Houston, Texas?

A. The Houston (Texas) Gas Company.

Q. Have you more than one copy of that circular? A. No, I have not; but I will secure more if they are needed.

Q. What is the price at which those bonds were sold? A. The price is 97%ths; the bonds mature March 1st, 1923. They are just about three year bonds, and the yield to the purchaser is 8%. Of course, the bond house did not pay as high a price as that for the bonds,-that's the price that they are offering them to the public for.

Q. So they didn't yield 97% to the Gas Company?

A. They did not. I imagine they did not yield anything like 973/sth- to the Gas Company; they must have been sold around 95, I should guess, but that's only a dazard. 862

Mr. D. A. Frank: We will offer this in evidence as Plaintiff's Exhibit No. 140.

(The circular was thereupon received in evidence and marked Plaintiff's Exhibit No. 140, witness Blair-Smith, and is filed herewith.)

(By Mr. D. A. Frank:)

Q. You will furnish those copies, you will do that?

A. Yes, I will send those.

Q. That is on a first mortgage bond,—that's a closed issue, and produces 8%. If this same Company or some similar company handling securities were attempting to sell stock, could they sell stock on as favorable conditions as that?

A. I don't think they can on anything like that at present, if they would be able to sell the stock, but stocks are not very saleable at the

present time.

Q. If a first mortgage bond produces 8% and it is conceded that the company is in every way sound financially, to be a similar investment what would the stock have to produce?

A. I think the stock must produce around 9% or 10% and there must be assurance that the protection back of it is not going to be

hampered by unjust regulations.

Q. And if you have to take into account the expense and delay of trying rate cases, and you have to go into court, it would add something to what you would have to do in order to get money for

a new plant? 863 A. Necessarily. It should be borne in mind that when a company mortgages its property, it is a closed mortgage and is a first mortgage on its property; that method of financing is only for the life of that mortgage, unless it has the ability to go out and secure the money and retire the issue, and that isn't a favorable

method of financing for a corporation of this kind, due to the fact that your highest class of security is issued against the property and the quantity of money raised on it is limited, and in the case of a telephone property it grows and grows continuously,-when a telephone property stops growing, why, it is going to die.

Q. If a telephone property in Houston were owned by a local concern and financed in the same way that this gas proposition is financed when that \$900,000.00 was used up how would they get

more money to build more plant?

A. I don't know of any way, except to issue stock or issue a junior mortgage, both of which would require higher rates in order to get investors to buy them or retire that mortgage if the property justified it; and in order to do that it would be necessary to call the bonds at more than par, they usually provide that, but it is not a satisfactory method, and the continuous issue of securities can be made practical only by issuing stock.

Q. Would that, or not, be very difficult for a local corporation owing a property like that in Houston,-would it be very difficult

for them to finance themselves for a period of twenty years?

A. In my opinion, it would be quite a difficult thing to do. I think a very large measure of the success of the Bell System

is the fact that they have followed the plans prescribed and have been able to get the necessary money that's been required of it up to the present time to expand as the country has grown.

Q. There have been quite a number of independent telephone companies that first started out with bright prospects and afterwards failed. Did the fact of their not having proper financial relations

have anything to do with the failure?

A. I think it is more than that. I think, in the first place, it's an improper idea of the rate they could run at; they ignore the subject of depreciation and were unable to get a sufficient amount of capital to continue to build to supply the demand, and aside from that, they never had the high efficiency that the Bell System was able to have through the contact with the experts and the continuous improvement and development of the art.

Q. Well, a company might be successful and then a time might

come when they couldn't finance themselves further?

A. That has been the case.
Q. That has been the case in a number of instances?

A. I think so.

Q. In your opinion, has the relation that has existed between the American Company and the Southwestern Company, in so far as the financial services are concerned, been of great value to the Southwestern Company?

A. I think there is no doubt whatever but that it has been most

advantageous to the Southwestern Company.

Q. That's especially true in the last four or five years, during which there have been more expenditures and during which time it has been very difficult to get money, is it?

A. That's ture.

Q. Suggestion has been made here at one time during the trial of this case by counsel for the City that this Company will be very well pleased if it netted a reserve for depreciation without having

any dividends. Do you think that's a sound proposition?

A. You think-you must only look at it from the standpoint of yourself as an investor, as the man furnishing the money, to see that it is not sound,—that you must have a return for your money, and at the same time feel that the money you put into it will be protected and that you can get it out if it is in the nature of a loan, or that you are going to have a continuous income from it if it is in the nature of a stock investment.

Q. Has the American Company, through its ownership of stock in the Southwestern Company, secured any dividends by means of

or through the reserve for depreciation?

A. Absolutely none. The reserve for depreciation is for the protection of the property.

Q. What becomes of the reserve for depreciation?

A. The reserve for depreciation, until required for actual replacement, is invested in new property which does not have to furnish a return on the investment.

Q. By that you mean no dividends are paid on it.

A. No dividends paid on it whatever, and no interest

866 charges paid on it.

Q. The evidence in the case shows that for a period of a number of years, the Southwestern Company has averaged something like 5%,—5.36% as dividends. Has the American Company had its proportion of those dividends?

A. The American Company has.

Q. Has it got anything else from the Southwestern Company

except its proportion of those dividends?

A. It has gotten the interest charges on the amount of money that it has loaned it on its notes, and has gotten the payments under the license contract, that is, the $4\frac{1}{2}\%$ payments, that is everything that the American Company has gotten from them.

Mr. D. A. Frank: I believe that's all.

Q. Now, Mr. Blair-Smith, you have stated here a very considerable benefit that has resulted to this Southwestern Company and I understood you, in speaking of them, all the time as the Associated Companies. Now, the Southwestern Company—treating them that way for the minute, you claim a considerable benefit is derived from the service of the American Company by saving that this money was loaned at 6%. I understood you, however, to say that your contract carries no such obligation?

A. That's true. The contract carries an obligation to assist the

Company in its financial arrangements.

Q. Now, that might be, however, limited to advice and good offices in the matter, and not to any obligation in so far as the payment of any specific sum of money is concerned, or doing any specific thing?

A. That's true; but at the first of each year you will find that an allotment or pledge has been made to the Company as to how much money it might expect the American Company to furnish during that year.

Q. Now, up until 1916, it would not be considered any great benefit to a solvent concern to secure money at 6% on long time

securities, would it?

A. I think it would.

Q. Wasn't 6% prior to 1916 regarded as a rather liberal rate of interest?

A. No, it was not.

Q. Do you mean it was not when you confine it to public utility earnings, or do you mean it was not when you applied it to municipal and county bonds, and well secured bonds?

A. Well, now, if you speak of county bonds, city bonds, they are in a class by themselves. There is no public utility that can offer

the same class of investment.

Q. You volunteered a general answer, and I want to get it to

apply you said that 6% was not considered liberal.

The Master: Mr. Blair-Smith, the securities of the American Telephone & Telegraph Company are regarded in the business world at gilt-edged, are they?

A. They have been so recognized until recently, and recently there has been expressed a great deal of doubt as to whether or not the impediments of regulation were not very detrimental to the the System as a whole.

868 (By Mr. Howard:)

Q. I have been speaking of the time prior to 1916, Mr. Blair-Smith.

The Master: He raised the question of municipal bonds,—county and city bonds, and you suggested that they were in a class to themselves. Just as a matter of curiosity, I wish to know why a municipal bond can be marketed at 5½% and why your bonds or securities should bear a higher rate of interest where they are sold together?

A. At the present time there are two reasons for it; First, as to the security back of it, a municipal bond has the security of the whole community, the whole town, back of it. I believe there is no record of a city ever having defaulted in the payment of its interest and its bonds. You can go and sell the property, the real property there, and the business of the town is back of that bond. Its diversified, and a second consideration at the present time is the Income Tax feature. You will find that a city bond is recognized as a savings bank investment; the life insurance companies can invest in them, trust funds are invested in them, and our bonds are not as high class a grade. We have one issue of bonds which is recognized as a savings bank bond.

The Master: What rate of interest does that bear?

A. That is a 4% bond, but is now selling on the market at 78. It is selling on the market at around 6½%. The Income Tax fea-

ture, as I say, is another important consideration, especially to the rich man, who must pay 40% or 50% tax on the super-tax. The rich man buys those and he is exempt from any tax on that whatever.

The Master: On a city bond? A. On a city bond, yes, sir.

(By Mr. Howard:)

Q. Well, there are certain principles that govern loans, and the basic principle is the value of the security, isnt it, Mr. Blair-Smith?

A. The value of the security and the return.

Q. The value of the security, of course, and the return.

A. That is, it is the safety of the investment and the return on

that investment.

Q. Oh, yes, naturally a man, if he can get 10%, will take more risk than if he was only getting 2%, but the basic thing, the firsthing that a man contemplates is the value of the security offered?

A. It is the safety of the security offered and the return on that

security.

870

Q. Well, let's take it a little further. What is the first element you look at in trying to arive at the conclusion as to whether or not

it is a safe, -what are the elements of safety?

A. That depends on the security that you put out. If it's a stock, you want to know that you are in a company that is going to last and is going to be able to earn a return that's promised on the particular security.

Q. But you look to the assets of the company,—that is the first

thing you look to?

A. The assets of the Company are a measure of the safety.

Q. And the Main measure, are they not? Or are there other things, the prospects and outlook, and yet you want something that you can put your finger on when you make your loan don't you?

A. I might have a property and it could have all the assets there, and have value back of it as far as the investment is concerned, and yet, if that property had no returns and the income was eliminated by that, that security would be recognized as practically valueless.

Q. Up to 1916 the banks of New York were loaded with money

upon which they were bid not over 3%, were they not?

A. You mean loaning money?

Q. No, the banks were offering the money, and savings bank investor could get 3%?

A. I think that's true, and think it is true at the present time. Q. Life insurance companies all over the country were making loans at 5% and 5½%, were they not?

A. I believe they were, on well secured real estate mortgages. Mr. D. A. Frank: You don't mean here in Houston?

Mr. Howard: I wouldn't say that they were not making some; I think they made some in Houston at 6%,—think they were after them at 6%, and I represent the Pan-American—

A. I can give you some information in connection with that, which would offset your theory. I consulted the Metropolitan Life Insurance Company in connection with a loan on a piece of real estate in New York in the Heart of the financial district, and I was told that the cheapest rate that they would consider would be 6%,

and that in addition to that the loan would have to be amortized very heavily, and that all costs in connection with the loan, amounting to around $1\frac{1}{2}\%$ of the loan, would have to

be paid in expenses.

(By Mr. Howard:)

Q. Your proposition is, then, that an A-1 New York City real estate loan,—that on a loan of that character that 6% is the cheapest money that can be obtained?

A. And that loan, then, would not be made in excess of-

Q. (Interrupting.) That was prior to 1916?

A. That was a few days ago.

Q. We were talking about prior to 1916,—what the conditions were in regard to loans prior to 1916. Do you undertake to say that you couldn't get money at less than 6% on good New York security prior to 1916?

A. I would not undertake to say that, because I have no examples

before me.

Mr. D. A. Frank: Well, how much stock are they buying?

A. I can answer the question that you are probably asking, Mr. Howard, by telling you that as of February 1st, 1916, the American Company took some $4\frac{1}{2}\%$ notes of its Associated Companies, those that were earning fair returns, some of them, and all of them earning a sufficient amount ot pay the interest on the notes several times; the American Company itself endorsed these notes to the amount of \$40,000,000.00 and sold them to bankers at the rate of 5.55%,—I think they were two-year securities.

(By Mr. Howard:)

Q. Four and a half per cent?

A. They bear $4\frac{1}{2}\%$,—the rate of interest, but sold to bankers at the rate of 5.55%.

872 Q. Then, up to 1916, at least, it was no particular benefit to a solvent concern like the Southwestern Telegraph & Tele-

phone Company, to borrow money at 6%, was it?

A. I should say that to a certain limit the Southwestern Company could have borrowed from banks,—various banks, on its short time paper, money at that rate; but, bear in mind that these coupon notes that I mentioned to hou are not only the notes of the Southwestern Company, but bore the endorsement of the American Company.

Q. I understand, but the American Company owns the Southwest-

ern Telegraph & Telephone Company.

A. It owns its capital stock.

Q. It owns its capital stock. You recognize the owner of the

capital stock as being the owner of the assets of the Company do you not?

A. I do not.

Q. Who does own it?

A. The Company.

Q. Well, who is the Company?
A. It's an incorporated Company.
Q. Who constitutes the Company?

A. That's a legal point that you probably know better than I.

Q. Don't you know, as an accountant that the owners of the capital stock of a corporation own the corporation—owns the capital stock and owns the corporation, and that the ownership—

A. (Interrupting.) I don't understand that the owner of a stock certificate has anything to do with the property except

873 through the management of it.

Q. You don't understand that the owner of all the stock in a property can handle it as his individual property?

A. No, indeed.

Q. Then, as I understand you, prior to 1916 this was no particular favor to get money at 6%, and as I further understand you, you are not able to tell me how much money has been loaned for the use of this exchange since 1916?

A. You make a statement. I didn't say that it was no particular advantage to the Southwestern Company to lend it money. I have always considered the Southwestern Company had a very great ad-

vantage in its arrangement with the American Company.

Q. We have gone over the proposition up to 1916, and the best that you can show me is that money prior to that time cost 5.55%?

A. I said that in 1916 it cost that. Now, if you want to go back of that year, I will say that in 1907 there were \$25,000,000.00 worth of three-year coupon notes of the American Company that sold on a 8.46% basis.

Q. That's in a panic year?

A. We have good years and bad years,—that is the year of a panic.

Q. And the American Tel. & Tel. Company pocketed the loss between 6% and the 8%,—I understood you to say that?

A. I don't know what you mean by "pocketing" the loss.

Q. Well, I probably am not as refined in speech as I should be, but I will try and make myself clear to you. Let me see, it will mean this: They borrowed money at 8% and loaned it at 6%, and whether they "pocketed" it or not, they sustained a loss of 2% on the loan,—did I understand you to say that?

A. In cases where the American Company loaned it at

6%, it stood the loss.

Q. I am asking you if you are stating to the Court now, if the American Company in 1907 sustained a loss of 2% for the benefit of its Associated Companies?

A. I can't answer that direct.

Q. You don't know?

874

A. Whatever money it loaned-it loaned money at that time at 6%.

Q. And borrowed it at 8%?

A. It borrowed it at 8.46%.—On that particular loan.

Q. You call that intelligent financing? Or did you do that as an obligation under this 41/2% agreement?

A. We did not do it as an obligation; we did it because we be-

lieved it was the thing to do.

Q. For why?

A. You will have to ask the President why he did it. Q. You don't know, but that they used this money for the benefit of Associated Companies that it owned, or, to suit you and Mr. Frank, whose capital stock it owned?

A. Part of whose capital stock it owned.

Q. Well, 99.99% of whose capital stock it owned?

A. Of course, the main idea of the American Company is to do a union wide telephone business.

Q. Yes, sir. A. And it and the Associated Companies do it together. the Associated Companies are not as strong as other Associated Companies. It has always been, I believe, the opinion of those directing the enterprise that the United States public was a

fair public, and that if they were given good service, that

they would pay for it and would pay for it adequately.

Q. Well, let's see; I didn't see where the answer is responsive. asked you if they used the money for the purpose of assisting Associated Companies, 99 and a fraction per cent of whost stock they owned?

Mr. D. A. Frank: What time are you confining this to? time are you referring to, and what loan are you referring to? Are

you assuming that the American Company-

Mr. Howard (interrupting): No, I am talking about this loan. They borrowed money, he said, at 8% and loaned it at 6%, and I want to know who they loaned it to and asked him if they didn't loan it to Associated Companies, 99 and a fraction per cent of whose stock they owned.

Mr. D. A. Frank: There is no evidence in this case that the American Company owns 99 and a fraction per cent of the stock of all Associated Companies; in some of the Associated Companies, the

American Company owns only 30%.

(By Mr. Howard:)

Q. If it goes beyond the Southwestern Company, we are not concerned. Do you know whether they used any of that money for the

benefit of the Southwestern Company?

A. Why, we can't pick out our dollars and I can't tell you what we used that particular money for; but I would like to say this, I did testify that over a period of ten years the money the American

Company had raised had cost that Company more than 6%, 876 and I know that some of that money was loaned to the South-

western Company.

Q. Then back of 1916 you can't tell us of any particular benefit that this Houston exchange got by getting money at 6%, and as I understand your testimony, $5\frac{1}{2}\%$, after allowing all discounts, was about the biggest rate of interest you can account for, except the call instance, and you don't know that any of that came to Houston?

A. No, I did not attempt the statement that you made.

Q. Well, let me put it this way: Prior to 1915 or '16, point out a specific instance in which the Houston exchange received a benefit from the financial management of the American Tel. & Tel. Company,—not generalities, but specific instances?

A. I would have to go back and apply to the Southwestern Company's books. I have no direct information as to what was done in

connection with the Houston exchange.

Q. We agree upon this: Prior to 1916 it wasn't very difficult to negotiate bonds of a good, solvent company, such as the Southwestern Telegraph & Telephone Company or the American Tel. & Tel. Company, at 6%, including all discounts and commissions?

A. My information is that, and I have always beleived that Texas was a wonderful field for loaning money at high rates of interest; that Texas was a place where high rates were secured and that the people were perfectly willing to pay high rates for money,—that is, high rates in comparison with what rates were in the East. Now, we must classify loans; there are loans of all different classes. If you

speak of a real estate mortgage loan, that's of a class by itself and something that the Associated Companies have never

offered; and if you speack of mortgage loans, they are quite another class of loans; but if you speak of money put into an industry by purchase of capital stock, you get another class of loan, and all of those command different rates of interest. Now, the American Company has poured money into the State of Texas in order to build up the telephone business, and during a long series of years has had, I think, a very low rate of compensation or return on that money.

Q. (The question last above was read to the witness, as follows: "We agree upon this; Prior to 1916 it wasn't very difficult to negotiate the bonds of a good solvent company, such as the Southwestern Telegraph & Telephone Company or the American Tel. & Tel. Company, at 6%, including all discounts and commissions?")

you say to that question, Mr. Blair-Smith?

A. We have never attempted to negotiate any bonds of the Southwestern Company. The American Company itself could, in 1916, borrow money at around, or a little less than 6%, but I don't infer and don't mean to state that in all years prior to 1916 that that was the case.

Q. I believe I have understood you to say that you don't know what money has been loaned for the benefit of this exchange since

1916?

A. I don't know what money loaned to the Southwestern Company

has been used in this exchange.

Q. Mr. Blair-Smith, why do you take from the Houston exchange 4½% of its gross receipts; why don't you take 2½% or 10%, or any other figure,—why this particular figure?

A. The history of the arrangement between the American
Company and the Associated Companies goes back to 1883,
and from time to time the amounts charged for the instruments and
services of the American Company have been continuously reduced,

and in the year 1902, before I was connected with the American Company, the rate was further reduced to $4\frac{1}{2}\%$. Just exactly why $4\frac{1}{2}\%$ was fixed I can't state, but it must have been the business judgment which prompted that action.

Q. All you know is that in setting up your accounts you know the

charge has been made?

A. Since the year 1902.

Q. Now, yesterday you develled a great deal, in fact, at length, upon the services rendered before the Interstate Commerce Commission. Mr. Blair-Smith, treating this exchange as divorced from the toll lines, what business would it have before the Interstate Commerce Commission?

A. You are putting a hypothetical case that dosen't exist.

Q. Well, let me-just indulge me that much.

Mr. D. A. Frank: What was the question?

(By Mr. Howard:)

Q. That treating this exchange as divorced from the Southwestern Company and the toll system, what business it would have to be tracsacted before the Interstate Commerce Commission?

A. The exchange, without the toll lines, wouldn't be the exchange

that you find here now.

Q. Well, can you answer the question, Mr. Blair-Smith?

A. I can answer this question, that an isolated exchange, with no toll lines connection, in the city of Houston, would, so far as I know, have no relations with the Interstate Com-

merce Commission.

Q. Then the expenses incurred for the services that you rendered are of necessity, rendered for the whole system of the Southwestern Company that conducts this exchange?

A. And the development of the whole city is dependent upon a

connection with the tell lines.

Q. I am not speaking of that I say, it is the toll system that requires the representatives that you spoke of before the Interstate Commerce Commission?

A. I shouldn't say that, because I don't think you can divorce

it to that extent.

Q. You are trying to divorce it here, are you not, in the matters of revenues and things like that?

Q. Mr. Blair-Smith, then as I understand you, this whole service that is rendered in your accounting,—and you spoke of standardized accounts,-which no doubt are very beneficial where you are conducting a large business,-a great number of associated companies, all those accounts were standardized largely for the convenience of the American Tel. & Tel. Company and associated companies?

A. The standardization was proposed upon the initiative of the Bell System and the standardization-well, in fact, before the Interstate Commerce Commission had jurisdiction, or, at least, attempted

to enforce jurisdiction-

This extensive and admirable system of ac-Q. (Interrupting.) counts is the outgrowth of the Bell System, and must have been born of the necessity of handling such a large enterprise, is it

880

not,—for the convenience of the Company?

A. It is born of the necessity of each company to have the benefit of what is going on in its territory, and the accounts are used in a very large way in determining the efficiency of individual peoply in the organization.

Q. And it is very beneficial in showing the relation of a particular exchange of one particular company with other companies with

which it is associated?

A. That idea that you express would be that perfecting the organization and management by a company which was not so perfect as others

Q. That is, the accounts are used in order to maintain your efficiency. Now, bur treating this now as a local exchange as operated by an independent company, as has been suggested by Mr. Frank in the matter of its finances, all the benefits of the bookkeeping and this system here have no application?

A. I can't conceive of a thing like that. Permit me to say you might as well conceive of Houston being an independent State, sepa-

rated from the State of Texas.

Q. Well, let's see-

A. And isolated with the prairie.

Q. It don't occur to me that a man would have to stimulate his imagination very much to get up a very fair picture of it.

Mr. D. A. Frank: Do you understand that a single long distance line operated by the Company, if they did that, they would have to keep their accounts in accordance with the Interstate Commerce Commission?

881 Mr. Howard: I don't understand that.

(By Mr. Howard:)

Q. You can conceive that an independent owned this exchange entirely separated from the Southwestern System?

A. I can conceive such facts, but even conceding that, I can't con-

ceive of anyone patronizing it.

Q. That dosen't exist anywhere in the United States, -- any such condition as an independent company operating a local exchange without long distance lines?

A. There are some few trying to operate, but they are drying up.

Q. Has the Keystone dried up very much lately?

A. Well, I do not understand that it is progressing.

Q. Let's suggest this, Mr. Blair-Smith; What independent Company in the United States, aside from the New England, patrozines this American Telephone & Telegraph Company in the matter of its engineering service, for which this 41/2% charge is paid?

A. I take it that by an independent company, you mean a non-

controlled company of the Bell System?

Q. Yes, sir. Q. Two,—the Southern New England Telephone Company and the Cincinnati Suburban Bell Telephone Company.

Q. Are either of those what you can call a strictly non-controlled

company?

882

A. The American Company owns around 30%, of the capital

stock of those companies.

Q. This company over here at Waco is given out to the world as an Independent Company, isn't it, Mr. Blair-Smith?

A. I am sorroy that I can't tell you; I don't know about it. Q. Then, of all independent companies, those are the only

two which subscribe to this service?

A. You understand that—; well, no, the Kansas City Telephone Company, which has recently been formed by consolidating the properties of the independents in Kansas, and in which the Bell System does not own a controlling interest, has made a contract for the licensee service and pays 4½% just as the other companies do. You understand that has never been offered boradcast to any companies, but it has been provided for and offered to companies which have associated themselves with the System.

Q. Well, in the matter of this contract, in regard to whether they enter into this contract or not, the American Tel. & Tel. Company, as to whether they enter into it, they just tell them: "Here it is,"

do they not?

A. They do not. The contract, I think with this Company and with practically all of the Associated Companies, were entered into before the American Company was the controlling factor from the standpoint of capital stock ownership.

Q. At this time the American Tel. & Tel. Company makes this contract, with two exceptions, with companies that are controlled

A. Three exceptions that I mentioned. Q. Isn't that other one now controlled by the Bell System?

A. Is it not. It is a consolidation of the property, but none of the voting, or a very small part of of the voting stock is owned within the Bell System,—the American Company dosen't own that.

Q. Well then, with three exceptions, those contracts are

made entirely with companies controlled by the American 883

Telephone & Telegraph Company?

A. These contracts, you understand, are all long duration. were made, I think, back in the 80's and they have held down to the present day; they were made at a time when, I think, the companies that made them were absolutely independent.

Q. Made for how long?

A. They are perpetual contracts, I think.

Q. Made in perpetuity?

A. I think so,—they are permanent contracts.

Q. Are they renewed at any time?

Mr. Frank: No.

Q. Mr. Blair-Smith, you were asked a while ago about making your money out of the reserve, and you said you would have to have a reserve, and you said you would have to have a return, which has been estimated here by the Company's witnesses, or testified to by the Company's witnesses, that after putting on the highest rate that they think the traffic will bear and providing for this reserve of between 5% and 6% in the operating expenses, that it will show a return of something like \$52,000.00, or a fraction of 1%. How would you square that sort of a proposition up with good financing and good management of a public utility?

A. I don't like to express an opinion on something I haven't ex-

amined and studied.

Q. Well, you have qualified here as a financier, haven't you, Mr. Blair-Smith; and as a man who keeps abreast with all financial things that in anyway relate to or throw light upon the industry that he is connected with?

A. I am not sure that I have qualified to that,—I am in touch—

Q. (Interrupting.) Well, you have given us here a very ulluminating and interesting statement concerning your activities, and now, I am just asking you as a man up on these things, how you can square that proposition up with good management and good financing?

A. Are you telling me it exists?Q. Yes, I am telling you it exists.

A. I know that this is a fact,—that there are sections of the United States which do not pay operating expenses; they are connected with sections that do pay operating expenses. You must take the industry as a whole, you must recognize, probably, a State as a

whole--

Q. (Interrupting.) Well, let me amplify that. The evidence further shows that this is a very energetic and growing city, almost a veritable paradise,—heavenly Houston. The records show that the people are very thoroughly educated to the use of telephone service; that the telephone service is probably above the average in the use of it, and by putting on the highest rate that you say the traffic will bear, regardless of regulation, that it will pay a return of less than 1%. What's the fault with it?

Mr. D. A. Frank: Who testified to that, Mr. Howard?

Mr. Powell: I don't remember whether he said 1% or not.
Mr. Howard: It was \$52,000.00; it was less than 1%. I am asking him, as a man connected with the business and active

in the financial world, and I would like to have his views on it. Something is wrong and I would like to know what it is.

Mr. D. A. Frank: You know what is wrong, and I know it too.
A. I don't know. I don't like to express an opinion, as I say, in case of that kind without seeing the proposition in writing.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. Mr. Blair-Smith, you were asked about the money that the American Company furnished to the Associated Companies during the time of the panie, and also during this war time. Those were the times when these financial relations are of the most importance to the Associated Companies, are they not?

A. I think the financial relations are important at all times, and,

of course, especially important at such times as that.

Q. In Mr. Scott's Exhibit No. 8, introduced in this case, the witness for the plaintiff set out the capital stock by years, from 1883, at which time the capital stock was \$2,000,000.00, up to October 31st, 1919, at which time it was \$34,000,000.00; then set out by years, on the same exhibit, the amount of notes and bills payable, showing notes ranging from \$12,000.00 for one year to as high as \$4,381,000.00 in one year, and showing that on October 31st, 1919, there was outstanding \$1,073,463.91 of notes and bills payable. The first note—the first amount of these notes outstanding, of

\$12,000.00, was in the year 1890, and with the exception of just a few years there were—well, without exception,—yes, with the exception of 1898 and 1917, with the exception of those two years there was an amount due at the end of the year by the Southwestern Telegraph & Telephone Company, indicating that there was some financing in each one of those years. Now, would it have been possible for an independent company, without some sort of financial arrangement, to have been financed in just that way by having outstanding at various times notes and bills which were, from year to

year, taken up by the issuance of stock?

A. I think that the difficulty would have been, not in borrowing some money on short time, but in having the protection for that money, that is, in the nature of capital stock outstanding. I think one of the benefits,—one of the great benefits to the Southwestern Company has been the fact that the American Company has been willing to accept stock at par in exchange for notes, the stock paying a very low rate of retuen. Of course, the more stock fully paid that a company has outstanding, the more protection a lender has for his money, and the benefits to the Sout western Company, as I say, has been in the fact that it has always had a very much larger amount of capital stock back of the loans.

Q. The same witness, A. E. Scott, in Exhibit No. 9, showed that from 1883 to 1919 the average dividends paid by the Southwestern Company was 5.36%. I believe you have stated that the money that was put into the Southwestern Company by the American Telephone

& Telegraph Company in the form of loans for notes, and afterwards taken up in the form of stock, has cost the American Telephone & Telegraph Company more than 6%?

A. Yes.

Q. So that from an investment standpoint, the American Telephone & Telegraph Company has actually sustained a loss in these transactions?

A. It has received in return less than the amount paid in money

for it.

Q. Now, then, counting the $4\frac{1}{2}\%$ payment, do you know what that amount is per annum now, the $4\frac{1}{2}\%$ payment on behalf of Houston?

A. I do not know exactly.

Q. The testimony shows that something like \$40,000.00,—\$43,-000.00, and approximately 27,000 stations in the city of Houston, making something less than \$2.00 per station, charged. Has that been figured out exactly?

A. About \$1.50 per station.

Q. About \$1.50 a station. The testimony of one of the witnesses in the case is that the instrument service alone is worth something like \$1.00 per station,—may be a little more than \$1.00 per station, but count it \$1.00 per station,—it would leave about 50 cents a station for all the other services, including financing, accounting, engineering, legal expenses and advisory and various other services rendered by the American Company or in amount something like \$16,000.00. Does that indicate to your mind that the American Company is getting a secret dividend from the 4½ % payment?

A. It is not.

Q. Which has the best of the bargain of these companies who are said to be dealing at arms length—the Southwestern

Company or the American Company?

A. My opinion is that the Southwestern Company should not get such an arrangement with any other Company in the world,—the benefits to the Southwestern Company are far greater than the outlay and the cost to it.

Q. You testified that at one time it was not difficult to sell 6% bonds. Could any company, like a company in Houston, finance

itself merely by the sale of 6% bonds?

A. I don't think it could have kept pace with the growth of the community by the sale of bonds. There is a limit to the sale of bonds; the more bonds that you try to sell, the greater the amount of capital stock that has been outstanding. I might give, as an illustration, this fact, that the American Company itself has found that in financing, it is necessary to maintain a relationship between capital stock outstanding and bonded debt; the capital stock must always be far in excess of the amount of the bonded debt in order to secure money at reasonable rates. When a bonded debt gets up to an amount equal to the amount of the capital stock, you are getting on dangerous ground.

Q. The evidence in this case is that the payment of the 41/2%

for license contract is about \$43,000.00 per year; the evidence also shows that the book cost of the property in the city of Houston is something like \$4,800,000.00; the reproduction new, less depreciation, according to the testimony of three witnesses who have testified on that, ranges from six -nd a half to eight million dollars. On this

basis, if the entire payment for the $4\frac{1}{2}\%$ services were considered dividends, it would not be much over $\frac{1}{2}$ of 1% per

annum, would it?

A. One-half of one per cent.

Q. Do you know what was the highest amount over paid under the $4\frac{1}{2}\%$ arrangement, per station, for this service by any company in the United States?

A. You speak of the 4½% arrangement?
Q. Well, I mean under the license contract.

Q. Well, I mean under the license contract.
A. Oh! in old days it used to be somewhere around \$5.00 per station.

Q. Wasn't it \$14.00?

A. Seven dollars per telephone.

Q. And that has been reduced from year to year until now, in Houston, it is something like \$1.50 per station?

A. That's true.

Q. Under the Interstate Commerce Commission's-

A. (Interrupting.) Those reductions have all been made volun-

tarily.

Q. If the Houston plant were owned independently by an independent company and was connected with any long distance lines extending out of the State, would any inter-state business originating in this exchange—state whether or not, under the rules of the Interstate Commerce Commission, its accounts would have to be kept in accordance with the Interstate Commerce Commission's regulations.

A. Those conditions would require, in accordance with the Interstate Commerce Commission's rules, that the Commission would have

jurisdiction over its accounts.

Q. And state whether or not that means that the Company would have to keep its books in accordance with those rules, and could not keep its books in accordance with those rules, and could not keep its books in any other way?

A. That is true.

Q. Do you know of any plant in the United States, or anywhere else, the size of the plant in the city of Houston, with 27,000 stations, that has no long distance connections?

A. I do not.

Q. Now, you have testified that there are only three independent companies, or companies, not controlled by the American Company which use the license agreement under which they pay 4½% out of certain of their gross receipts. Do you know whether or not any other companies would like to have this arrangement?

A. Only by hearsay.

Mr. Howard: Don't stop on a little thing like that.

(By Mr. D. A. Frank:)

Q. Give Mr. Howard the benefit of that, Mr. Blair-Smith.

A. Quite a number of companies would like very much to come

in under that.

Q. Now, counsel has stated to you that some witness testified here that all the traffic would bear would only run 1%. That is a dofference of opinion as to whether or not the witness said anything like that, but if it was stated to you that the city of Houston were a growing city and that the people were used to telephone service and that they were able to pay for telephone service, would you accept readily, without investigation, the statement that the property

here wouldn't pay and was unable to earn more than 1%?

891 A. No, I would not.

Mr. Howard: Do you withdraw that testimony, Mr. Frank,-the testimony about it?

Mr. D. A. Frank: No, we don't withdraw any testimony. Mr. Powell: I think a fellow named Baker testified to that.

(By Mr. D. A. Frank:)

Q. Now, Mr. Blair-Smith, with reference to the rate of interest in 1916. The times have changed considerably sonce 1916, haven't they?

A. Very considerably.

Q. And it is considerably harder to get money now than it was at that time?

A. Money is tighter now than I have seen it during the financial

side of my life.

Q. Is it of more or less importance to the Southwestern Company that it retain its connection with the American Company on account of its financial service now than it used to be?

A. All of its services,—financial and otherwise. I think that the Southwestern Company would find it very difficult to finance itself

individually always.

Q. Well, what—are the rates of return on business property and on loans and on stocks, and on all other characters of investments in New York just the same as they are in Houston?

in New York just the same as they are in Houston?

A. Why, I haven't made a study of the Houston Market, but as Houston goes to New York for money, I presume it is easier in New York than in Houston.

Q. Would a man in New York as soon have money on a piece of business property in Houston as in New York?

A. It is customary for every investor to want it where he

can see it.

Q. At the same rate of interest, of course that's understood. Now the interest rates in Houston and Texas are generally higher than they are in the East?

A. I have always understood that that was true.

Q. And that's because of the fact that the money market is far removed from Texas, is it?

A. That's one of the factors.
Q. Mr. Blair-Smith, you testified with reference to the financial services in the case known as the Reed case, didn't you?

 A. Yes, sir.
 Q. That was a case in Chicago in which an attempt was made to discredit this arrangement with the American Company by the Central Union Company?

A. Yes, sir, by the Receivers, not by the Receivers, but by

some stockholders.

Q. You testified in that case, and after a very long trial, the Court in that case approved entirely the 41/2% arrangement, did it not?

A. That's true. I want to correct my statement there that the case was not one by the Receivers, but one by some minority stockholders.

Mr. D. A. Frank: That's all.

Recross-examination.

Questions by Mr. Howard:

Q. (By Mr. Howard:) Mr. Blair-Smith, you haven't undertaken to determine the cost,—what it costs the American Telephone & Telegraph Company to furnish this service to the city of Houston for the year 1919, or in 1918, or any other year?

A. It isn't possible to determine the exact cost to any one particular company, or any particular exchange; the services that are rendered are more general and do not apply to any one particular point,

than they are specific.

Q. Then you are charging here for a form of service which you

say is not susceptible of definite ascertainment of cost?

A. It would only be as overhead expenses that is subject to a

property.

Q. You can't tell what benefit this exchange has, aside from the induction coils, transmitters and receivers,-you can't tell what benefit the Houston Exchange has received from this service,—the value of it, the cost of it to the American Tel. & Tel. Company?

A. It would have to be by apportionment only,-it would have

to be apportioned.

Q. You mean that, regardless of whether they have rendered any service here or not, that you apportion a part of the general charges all over the System?

A. I should say that it would be on the basis of determining what part of the President of the Company's salary should be charged

against the Houston exchange.

Q. Without regard to whether in the year 1919 or 1918 they had rendered any specific service to this exchange? 894

A. I think that there is no doubt of the fact that service has been rendered, but when you say a specific service and take the matter of an actual - and study in connection with this exchange, and only this exchange, you see on this basis that you can't tell just exactly what it costs you to acquire the knowledge that you have, that you used on a visit.

Q. That's what I want to get at, whether you can state what the

cost of this service was to Houston.

A. It isn't possible to do so.

Mr. Howard: That's all.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. You have state that it was worth a great deal more than Houston is paying for it?

A. I said the value was far in excess. Q. The American Company is not making any great amount of money out of this 41/2% arrangement, is it?

A. It is not.

895 LAMAR LYNDON, a witness for the defendant who has been duly sworn, testified as follows:

Direct examination.

Questions by Mr. Howard:

Q. Mr. Lyndon, we have a final exhibit here, which we will introduce as Exhibit No. 13, entitled "License Revenue 1919."

The document was thereupon received in evidence, marked "Defendant's Exhibit No. 13, Witness Lyndon" and is as follows:

License Revenue.

This expense, with the sub-title, "Rights, Privileges and Use of Property, Bell System," amounted to \$43,528 for 1919, which sum represents 41/2 per cent on the total Cross Revenue of the Houston

Exchange.

In consideration of this payment, The American Telegraph & Telephone Company furnishes to the Houston Exchange 26,350 sets of Receivers, Transmitters and Induction Coils. The average value of these is taken as \$2.70 each. The records of the A. T. & T. Co. show that the average cost of these sets, taken over the whole of the United States, is \$2.60 each.

896 This latter figure is found as follows:

The A. T. & T. Co.'s Financial Report for 1918 shows that it owned 7,031,530 telephone sets. Its books show a total cost of This is equivalent to a cost of \$2.57 each.

The annual returns to which the owner of the instruments is entitled is 18 per cent on the cost. This percentage is computed as

follows:

Interest				*							 . ,	. ,							 	*	ķ					× ·		7%
Maintenance	*														*											. ,		3%
Depreciation				0				0									0	0 1										5%
General and	M	isc	el	lla	n	e	ot	18			 		 0	0	0	0					9	۰	۰	9	0		9	3%
																		b										18%

Hence, the annual return per instrument should be 18% of \$2.70, or \$0.486. This annual income for 26,350 instruments is, therefore, \$12,806, or, in round numbers, \$12,900.

Q. Mr. Lyndon, will you please explain that?

A. "This expense, with the sub-title, "Rights, Privileges and Use of Property, Bell System, amounted to \$43,528 for 1919, which sum represents 4½ per cent on the total Gross Revenue of the Houston Exchange.

In consideration of this payment, The American Telegraph & Telephone Company furnishes to the Houston Exchange 26,350 sets of Receivers, Transmitters and Induction Coils. The average value of these is taken as \$2.70 each. The records of the A. T. & T. Co. show that the average cost of these sets, taken over the whole of the United States, is \$2.60 each.

This latter figure is found as follows:

The A. T. & T. Co.'s Financial Report for 1918 shows that it owned 7,031,530 telephone sets. Its books show a total cost of

\$18,088,289. This is equivalent to a cost of \$2.57 each.

The annual returns to which the owner of the instruments is entitled is 18 per cent on the cost. This percentage is computed as follows: Interest 7%, Maintenance 3%, Depreciation 5%, General and Miscellaneous 3%, making a total of 18%. Hence, the annual return per instrument should be 18% of \$2.70, or \$0.486. This annual income for 26,350 instruments, is, therefore, \$12,806, or, in round numbers, \$12,900." That shows the reasonable return that should be paid the American Telephone & Telegraph Company for the property.

Q. Mr. Lyndon, I notice you set these things up, these sets at \$2.60 a set, is that right?

A. \$2.70.

Q. \$2.70. Well, did you hear the testimony of Mr. Kelsey?

He is, I believe, either in the manufacture of them or

898 the repair of them, been engaged in the manufacture of
them, and he told us something about the manufacturing
cost and referred to the fact that while, I suppose that was a little
exaggerated, by way of illustration, that they turned them out like
tacks, the way Henry Ford does a Ford car, that they are manufactured by standard machinery.

A. Of course, it is duplication work.

Q. What do you mean by duplication work?

A. The production of a large number of identical units of any

character of mechanism or pieces or parts.

Q. Yes, to the man's mind that wasn't accustomed to these things, would be rather staggering that they could turn out so many, would it not, to a primitive man if he could be brought back here, in view of this situation, it would look like a staggering thing today?

A. Very probably; it is all in the day's work.

Q. Yes, it is all in the day's work. They just turn them out a good deal like they do tacks or car bolts?

Mr. D. A. Frank: Storage batteries or bands or anything else.

A. Not the individual parts.

Q. Now, explain that to us and tell us how difficult they are of manufacture and to what extent, if any, has my impression been

exaggerated.

- A. Well, it has not been exaggerated at all with respect to manufacture. Of course, the development first of the proper character of design and the development of machinery to turn it out, and the development of factory materials, and the development of raw materials and matters of that kind, they are preliminary steps that must be gone through and are somewhat difficult.
- Q. Wouldn't that same thing, that preliminary work, apply somewhat in the same manner to machinery for turning out tacks or turning out plow bolts?

A. Yes, that was gone through with originally.

Q. You would get that machinery then, and you would manufacture them in quantity and grind them out that way. Of course, things like that, like grinding out those matches and all in a box, they bring them to us so that they can give us one hundred matches for a penny, with a box on it, that required a great deal of preliminary work, did it not?

A. It was developed.

Q. Yes, it was developed and the labor eliminated and kept eliminating by this process of evolving machinery until they got to the point where the individual box, the individual match was infinitesimal, you could not measure its cheapness; now, in a manner at least, that same condition exists in regard to manufacturing these instruments, does it not, or does it?

A. Oh it must; they couldn't turn out the enormour quantities

required in any other way.

Q. Mr. Kelsey said, while engaged in the business or at least in a manner engaged in it, he did not like to give away all the trade secrets, but he said he thought it would not cost more than a dime to manufacture each one; he said there was considerable copper in them and things like that, he would not say they could manufacture them for a dime, and while he didn't state they could be manufactured for twenty-five cents, he said he would hate to say they could not be manufactured for that.

Mr. D. A. Frank (interrupting): Grow on trees?

Q. (continued). No, very cheaply manufactured; well, is there anything about those little things, in the manufacture of them,

that you think should cost over twenty-five cents?

A. I don't know. I would know if I took one apart and found for instance, in the induction coil the exact number of winding and the size of the wire, and, of course, the weight of the wire and the character of the installation and could tell within a few per cent then what it would cost to manufacture them; they are all machine

Q. That is what I was going to ask you: after they are all dropped from the machine, all come out from a spout, I suppose they do in a way come out, they get them from the machinery in a certain

place,-

901 Mr. D. A. Frank (interrupting): Are you getting this witness to swear to something he knows or some dream of vours?

Mr. Howard: I am trying to find out what he knows about the

manufacture of these things.

Mr. D. A. Frank: Why don't you ask him the question instead of telling him then? -

Mr. Howard: I was not telling him; I was simply directing his

mind.

Q. Can that be likened in any way, they are finally directed in this machinery to some-

A. Some discharge point, of course. Q. (Continuing:) Which you might call a spout like an old thrashing machine?

A. It might be the equivalent.

Q. Well then, they come out to a big pile-

Mr. D. A. Frank: Did vou ever see one made Mr. Lyndon?

A. I don't recall the specific coil. I have seen the machine wound coils-

(By Mr. Frank:)

Q. Have you seen a telephone instrument made?

A. I don't know whether I saw one made completely; I have been in the works of the Western Electric Company at Atlanta and seen the work there. 902

Q. Have you ever been in the plant at Hawthorne and seen

them made?

A. I have noter been at Hawthorne.

Mr. D. A. Frank: I think it is absurd to clutter up the record with a lot of stuff, when Mr. Lyndon has never been there.

Q. After they get out of the machine, what other hand work is necessary to the completion of these coils that they sell here to this Company or that they install here for this company?

A. Well, the coils themselves are installed inside the boxes, the

bell boxes, along with the bells and the condenser. You are referring now to the induction coils, I suppose?

Q. Yes.
A. And the boxes of steel are stamped out in numbers and the only thing that is done that requires any hand labor at all is simply the assembling.

Q. Well, in the assembling of them, they do use a little hand labor

in assembling them?

A. Yes, in placing them, in placing the parts in the box.

Mr. D. A. Frank: Mr. Howard thought they grew that way.

903 A. (Continuing:) Well, they ultimately grow that way by assistance. But the part- only, as I understand the contract are furnished by the American Telephone & Telegraph Company, that is they furnish the Transmitter, but they don't furnish the containing box of the desk stand. They furnish the coil, but they don't furnish the metal box in which the coil is placed and they furnish the receiver, but I understand they don't furnish the hard rubber shell that a receiver goes in.

Q. Well, I want to make that clear, I don't think the Master-I don't think these gentlemen for that matter have tried to convey that impression, but when you see this desk stand and then this little box on the wall, it is not, of course, to be implied that the apparatus that the American Telegraph and Telephone Company furnishes this Exchange includes that little box on the wall, the

desk stand or any of that sort of thing.

A. By no means; those sets run in value from anywhere from ten

to fourteen dollars.

Q. Those are different things. You are just speaking of those little manufactured things that they grind out that way?

A. That small portion of those things.

Q. That are shipped down here and then the company that uses them, installs them in those receptacles?

A. I believe it is done by the Western Electric Company; 904 I believe that the installation that they produce—they take these portions and add to them other portions.

Q. Once they deliver to them these little coils and things, the American Telephone and Telegraph Company's responsibility with

them ceases?

A. No, I understand they have to maintain them.

Q. Well, maintain them, but then they are not-they don't set them up in these receptacles?

A. Oh no, they don't set them up and they don't install them. Q. Now, Mr. Lyndon, you, however, have used an item of \$2.60.

A. \$2,70.

Q. That would be equivalent to nearly ninety cents, between eighty five and ninety cents apiece for those little instruments that they grind out that way. Aren't you adding on a pretty considerable lot of overhead when you take the thing from the time they leave the machine until the time they are set up in the Western Electric Company's plant there?

A. I have not attempted to determine the ratio of the cost to this figure of \$2.70.

Q. But to recall now, you just said you had the American Tele-

graph & Telephone Company's books-

A. (Interrupting.) Statement of their value and I have had statements as to the selling price of other companies that manufacture them.

Q. You would not take the American Telegraph & Telephone Company as a witness of the particular buyer in favor of the public, would you, their statement of their cost when they say \$2.70, would you consider that they had put on a reasonable cost at any rate?

A. Yes, I would.

Mr. J. D. Frank: Forty or fifty per cent would be sufficient. Mr. Howard: Well, they might stop at that; I don't know.

Q. At any rate that is all the American Telephone & Telegraph Company set up on their own property?

A. I regard it as ample.

Q. Considering the way in which these things are manufactured, which you have just detailed, wouldn't you consider it much more than that?

A. I would certainly consider there was a profit in that \$2.70 for

the Western Electric Company, there would be no reason-

Q. (Interrupting.) Mr. Lyndon, I asked you this: Is there any reason that suggests itself to your mind or would to any mind familiar—that is not operating the telephone plant, but that is somewhat familiar with the operations and the business methods em-

ployed, would you consider that there were any reasons, good reasons, for not selling these little instruments to this local operating plant other than that they serve the purpose

of camaflouging this 41/2%?

A. I can't see any other purpose. They are purchasable from other manufacturers direct and the lowest quotation I had was, \$3.00. That is during the present year, for those parts. Now, they are, of course, purchasable.

Q. And from some reason or other they have carefully refrained from selling these instruments to this particular plant. They at one time would have sold them to independent plants, would they not?

A. I understand that for a good many years they competed with the standard manufacturers for independent plant business and did sell them to independent plants. That practically ceased, however, sometimes in 1917. I am not sure of the date but I understand that the Western Electric Company has stopped dealing with independent manufacturers.

Mr. D. A. Frank: They can't get enough for the Bell Company, can they?

A. (Continuing:) It is quite probable that that is so. Now, as to selling these parts to this company, why it has not—since the American Telegraph & Telephone Company that owns the Western

Electric Company and owns these transmitters and receivers and coils and owns this company, didn't they, or all combined under the one head, it does not strike me as a question of re-907

fraining from selling something; it is just a decision to do

something.

Q. Yes, they just decided for some purpose of their own, that it is a good idea to set up that as a rental instead of selling-once, it is sold and gone into the property value, it is hard to compute the interest rate on it definitely?

Well, it is the only tangible evidence of something contributed by the American Telegraph & Telephone Company to the

subordinate and local company.

Q. For a consideration of this 41/2% which they extracted from the gross revenues?

A. From the gross revenues.

Q. Now, is that the only tangible thing? Can you think of anything else or is there any other thing that we can put our finger on at all, that the American Telephone & Telegraph Company furnishes to the operating plant, aside from the use of these little instruments?

A. Well, I understand that they have an Engineering Depart-

ment, that will sometimes give advice.

- Q. Well, I am talking of tangible things, something in the way something that we can even measure at all, that we can get an approximation of?
- Mr. D. A. Frank: Consulting Engineering, of course, is not 908 This is a Consulting Engineer on the stand.
- Q. Now, that brings us, Mr. Lyndon, to the General Staff: can you tell us what the General Staff does for the Company here that warrants the expenditure of the balance of this 41/2 %?

A. I don't know.

- Mr. D. A. Frank: The witness doesn't show that he has any knowledge at all.
 - Q. Can you refer us to anybody that does know?

A. I don't know of anybody that does know.
Q. Have you given the subject some thought? You have heard of before and are somewhat familiar with the facts, aren't you?

A. Yes, I have discussed it with several people and in some certain cases I have gotten some very handsome statements about it, but I have never been able to find a tangible thing, except these parts which are furnished and maintained and the fact that Engineering advice is there ready on tap when required, as I understand it.

Q. Well, they have apparently done everything in the way of progress that has been brought about in the Electrical World, since

the Staff was organized, haven't they?

Mr. D. A. Frank: What has the Electrical World got to do 909 with it, Mr. Howard? This is a telephone matter.

Q. (Continuing:) Well, the World of Telephony then, we will narrow the field.

Mr. J. D. Frank: The witness has said that he doesn't know anything about it a number of times.

A. I understand that the common battery multiple board was the work of four gentlemen. I remember McQuarry and Hayes; I have forgotten the other two; and I believe they were all connected with the Bell Company. That goes back to some date that I am not sure about, but I believe it was between 1900 and 1902. It is stated by people who are in a position to know, that the advances which have been made by the independent manufacturers and the independent telephone Engineers. Certainly the most brilliant mind, as far as I know that was ever engaged in telephone work was an independent man and designer. I refer to W. W. Dean.

Mr. D. A. Frank: I never heard of him.

A. (Continuing:) Well, your Engineers ought to know him.

Mr. D. A. Frank: He said he didn't know anything about telephones.

910 A. (Continuing:) I have never said I didn't know anything about the telephone. I said I never operated a plant. I was in conference with Mr. Dean a considerable period about the details of design of telephone parts at the time we were trying to consolidate the independent exchanges many years ago, and which experience in a general way I refer to.

Q. Well, has there been any epoch making invention in the telephone world of late years, and if so, who has brought it about?

A. The only thing that occurs to me now is the Pupin coil, which is an artificial method of inducted loading, that was developed by Prof. Pupin. After he had read what Oliver Heavyside had to say on the subject and that has greatly improved long distance conversation.

Q. In what way does that confer any particular benefit upon this

local exchange?

A. Well, that confers benefit on the local exchange if the telephone tolls be recognized as a part of the income, because it improves the toll service.

Q. Oh yes, that is unquestionable.

A. If it is regarded strictly as a local matter, then the Pupin coil would have no bearing on it.

Q. Well, aren't there a whole lot of very valuable patents that are almost indispensible to the operations of telephones that the 911 Bell system has the exclusive use of on account of this General Staff's many and various investigations and researches?

A. Not a single one; and my basis for that statement without-

Mr. D. A. Frank (interposing): Any experience?

A. (Continuing:) Going through the patent archives of that company is this: that independent companies who are competitors are giving equally as good service as the Bell Company and they are going it at a lower cost of operation. Now, a patent can only confer one of two benefits: an improved service or a reduced cost.

is nothing else that a patent can do. That being the case, I reason that there can exist nothing which would give the Bell Company a benefit, because it certainly does not show a reduced cost of operations in any of the exchanges that I know of and it does not show any better service even in the transmission of articulate feet or in the

handling of—the manuel handling of connections.

Q. All right, so much for the patents, Mr. Lyndon. say if they want to put in a little extension to the plant down here, of course, they would not want to intrust it to anybody in Texas, or in the south or west or east or anywhere except this New York Staff. Would that be absolutely indispensible would you think that they should get it looked over by the New York Staff, before 912 they would do this work?

A. That I could not say; it depends entirely on the competence of their local and district Engineers.

Q. Can you give us some estimate of how much ability and experience and technical knowledge a local man or any other man ought to have in order to determine something about where an extension should go or about these problems of telephone engineering?

Mr. D. A. Frank: I object to the question, when the witness is not competent himself. How in the world he could tell what the requirements would be for the local man to be competent, it is impossible for him to say. He has never operated a telephone exchange in his life, says he has never built one, never operated one, never maintained one; now, for him to come along and tell what the qualifications are of a man that does know, looks absurd on the face of it.

Mr. Howard: It might possibly be that there is this fallacy in your proposition, that you are arrogating to yourself the ability to determine his competency. Now, it is possible that ordinary minds might differ with you on this subject. For that reason I would just rather have it go in and let the Master determine it, if you don't

913 Mr. D. A. Frank: If you think as a lawyer, he is able to pass upon the competency of a local man as an Engineer,

why all right.

Q. Well, I would rather go ahead. How about that, Mr. Lyndon? Q. Well, it is my own view that a local man who is competent and we assume that the Company would not put other than a competent man in charge, because they have a large quantity of big material to draw from, would know more about a local requirement than somebody who might come from the outside. That view is partly founded upon my own experience and practice. I have gone to various places at certain times to determine certain things for different corporations and I have found that in every case that the local conditions-I had to obtain from the local men that knew most about them and had to draw conclusions principally from the man on the ground with reference to the local condition.

Mr. D. A. Frank: A switchboard is a local condition?

A. (Continuing:) The extensions of lines are local conditions; their desirability and direction are local conditions; the extension of a switchboard is all in the days work. Those things are made in multiples, they are made in units, panels, and ready to be

added to, and assuming that the multiple jacks are not all 914 filled up.

Q. Mr. Lyndon, to hurry along over this thing, they have come down here and told us that they had standardized accounts and the outstanding facts and benefits that they cite us to, is that although this is a local exchange here and not engaged in interstate traffic, that they maintain up there at Washington, a representative that takes care of the matters before the Interstate Commerce Commission. Can you tell us and point out to us just where that is so beneficial to the local exchange?

A. I don't understand it at all. The Interstate Commerce Commission has set forth a method of accounting for telephone systems that it obtained some assistance from the Bell Company for, is very probable; that it obtained some assistance from some of the independent companies is a fair assumption. In fact, it would be a regret-able thing if the Interstate Commerce Commission would adopt an accounting that was based solely on the methods of one company. So we assume that this was temporary advice voluntarily given and for the help and guidance of the Government Commission.

Q. But what has a local exchange in the first place to do with the Interstate Commerce Commission, what help and benefit could it be

up there? 915 A. The Commission has set out a method of accounting, which it recommends and which is an excellent guide to follow.

(By Mr. D. A. Frank:)

Q. You say it recommends it?

A. To local companies.

(By Mr. Howard:)

Q. It is required in Interstate traffic is it?

A. Yes. I am speaking of local companies. Q. Now, Mr. Lyndon, they also pointed out here, I believe where some gentleman pointed out in these offices a process of manifolding; that is nothing that is very complicated or new or startling about that is there? Manifolding processes are pretting generally recognized all over the country aren't they, including Texas?

A. I am not quite clear as to what he did.

Q. Well, he caused some very new process of inserting carbon sheets, I believe, in the paper; I can't get it in very great detail; but the result of it was they made a great many sheets where they hadn't made that many before.

A. I don't recognize the process Judge. Is it a matter of produc-

tion of something else?

Q. Well, now they finally pointed out a thing here that I didn't

care to go into, they had discovered or somebody discovered that there was a bug, that creeps in the cables and they had the bug in the bottle and they brought it down here to show us. Now, what particular benefit is that, or can you compute it in any way in 916

dollars and cents so that we can know what we are paying

for?

Mr. D. A. Frank: He didn't see the bug.

Q. (Continuing:) Have you heard about that bug?

A. Not until now. There was one that was discovered in Germany that ate steel rails. That was done sixty years ago. It did actually eat steel rails. It was made of little bits of-

Q. (Interrupting.) You knew of that before this hearing,

didn't you?

A. Yes and it was made of little bits of rubber and it had some nitric acid in it and they would put the steel filings in the bottle and prod this bug and he would eat it. That was produced by a number of students at Berlin, one of whom was a former President of the Society of Engineers. In his reminiscences in his old age he told about the prodding of this bug and how it startled all the scientists of Germany, etc. I assume that this bug was born and grew, what does it do, eat the lead?

Q. It eats the lead and gets down among the wires. I don't

know who discovered it, the department of entymology?

A. Judge, I am incompetent, it takes an entymologist to answer

the question and I can't qualify as one either.

Q. Now, Mr. Lyndon, they have piled up here on us any number of Exhibits and I am not going to produce those and have you go over them in detail. I have in a general way, sketched 917 what the General Staff claims to do and I will ask you in

all seriousness whether there is anything that you can as an Engineer, familiar with the valuation of properties and more or less coming in contact with the operation of them, whether there is anything that you can think of that justifies this charge of four and a half per cent?

Mr. D. A. Frank: Well, without experience, put that in there,

Mr. Stenographer.

Q. (Continuing:) Well, I think you have got it in there about

fourteen times already.

A. Well, before we admit it, let's find out what kind of experience.

Mr. D. A. Frank: I am talking about operation of the telephone plants.

A. Without experience in the operation of the telephone plant. Q. I believe, you said you had been making too much money and been earning too much money to take part in the operation of a telephone plant?

A. Partly that, and to be fair judge, I never had one offered me. I can't see any possible reason for the continuance of that payment. I believe there was a time when that payment was justified. I be-

lieve back in the early days when the telephone was absolutely new in the art, there was nothing standard, when every ex-918 change that was put up was practically different from the preceding one and an enormous amount of experimentation was necessary, because it is largely a developed art, that that 41/2% was then warranted; besides the gross income was small so that the 41/2% did not result in a very considerable quantity of money from each telephone exchange. But that period passed long ago and the development in the art appears to have—certainly in local exchange work, appears to have come almost to a stop. Somewhere in 1906 or 1907. Those are not exact dates but around twelve to fourteen years ago. We have substantially the system and the same instruments today we had then.

Mr. D. A. Frank: In spite of the automatic?

A. (Continuing:) I am now, referring strictly and only to the manuel system, because that is the only thing here under discussion. You removed the automatic. So that the continuance of that payment after that period had been passed appears to my mind unjustified except that part of it, which is entire rental and maintenance payment for the parts furnished and by reason of the furnishing of these parts the company does not have to make that much investment, that, of course, should be paid, but it should be based on the cost of these parts and the proper interest on them and the main-

tenance and not four and a half per cent of the gross re-

919 turns.

Q. Now you have spoken about management and still I believe you say you have never operated a telephone exchange and never had such a position offered to you. You have had some experience in the observation of the management of industry and utility plants and other business enterprises, have you not?

A. Yes.

Q. In the course of your life. Mr. Lyndon, from that observation and that experience, you take any business where there is no local owner, where the manager has no concern except a part of the machine—be he ever so good a man and efficient and intelligent, that in his management he is handicapped at all times by a foreign policy that loads his business, he is trying to manage, and put on Engineering expenses here and overhead there and issued bulletins from the Central Office and instructions and the thing is largely governed by an interlocking machine, in the nature of things can that same business interest and motive be involved that is involved where the industry is being operated by its owner and those closely associated and affiliated with it?

Mr. D. A. Frank: All of which is pure argument, of course.

920 A. Judge, that is not even an Expert question. well known general fact, known to everybody I have known

about that where the boss is on the job things happen.

Q. Now, you take this for instance, it is illustrated here in this travelling expense, you get a travelling expense here of fifteen or sixteen dollars a station and we go to other plants, as large as this

plant, and we find when it is locally managed and independently built, these supervision and loading charges and General Staff and allocated charges and all these things that we find, the traffic expenses have been reduced-find it cut in two, that could grow largely out of the fact that the local manager is the same in his ideas of investigating plans and protecting economies and things of that

character, could it not?

A. It might be that some of it could come from that, could proceed from that reason. A great many general costs that this company has are unavoidable for this company. It owns a number of companies and has to make an accounting to headquarters, to its final owner, the A. T. & T. and that calls for an amount of accounting and bookkeeping that would not be necessary or required of a local company.

Q. Yes.

A. In other words, the local company has got to bear some portion of the burden which comes from the fact that it is part of a large system, instead of being locally, or to itself, and in that, that is obviously true. And this local exchange for instance, the

921 manager of one exchange is trying to get along, effect economies and some extraordinary expense happens over in San Antonio, they might put on a big rate hearing over there and cost them one hundred and fifty or two hundred thousand dollars and then they allocate fifteen or twenty or twenty-five per cent of that cost to another exchange, it can't help but have a depressing effect upon the local manager, can it?

A. I should think so, if he wanted to make a good showing as

every local manager wants to do.

Q. And when every man confronted with all these things, the thing taken beyond his control and his economy, he finds the economies perfected here and a little improvement in traffic here and a commercial expense there and gets along and gets interested in his work and is energetic and trying to use his best judgment upon the proposition, and then he is hit with a big bunch of allocated expense that makes that look like a nickel, why he just naturally begins to,—it has a depressing effect on him naturally.

Mr. D. A. Frank: Now, if your Honor, please-

The Master (interrupting): It seems to be somewhat argumentative.

Mr. Howard: It might be slightly, Judge, and I will not continue it.

922 J. C. Kelsey, a witness for Defendant, was recalled and testified as follows:

Direct examination.

Questions by Mr. Howard:

Q. Now, Mr. Kelsey, you have heard of this 41/2 % license revenue of the American Tel. & Tel. Company? 31 - 219

A. There has been some discussion of it.

- Q. Mr. Kelsey, I wish you would go into detail and tell us some of the great and lasting benefits that this Company and other Associated Companies derive from the services of the General Staff.
- Mr. D. A. Frank: We object to his testifying about it, because he shows that he has disallowed it entirely.

The Master: Objection overruled.

(By Mr. Howard:)

Q. Well, tell us some of them, some of the advantages to the Southwestern Telegraph & Telephone Company, and the Houston local exchange in particular, Mr. Kelsey, that we get from this General Staff.

A. The General Staff is a clearing house,—a great deal like a clearing house in a city, in a banking institution,—merely a clearing house. I would not trade the Staff of the Southwestern,—the

Staff that the Southwestern has for the General Staff of the 923 American Telephone & Telegraph Company. These boys' ancestors didn't get room in the Mayflower, and therefore

cannot belong to the General Staff.

Q. Do you mean to say that they do not get any benefits?

A. I doubt if they have ever gotten any. I would rather have this organization right here than all of the General Staff put together. I have been watching the so-called General Staff for years and—

Q. (Interrupting.) Well, but Mr. Kelsey they do a great deal of work for us in standardizing our accounts, don't they?

A. The independent telephone system is in that standardization

just as well.

Q. All right, Mr. Kelsey, you say you haven't been able to discover any benefits of the General Staff?

A. I repeat, it's a clearing house and a very logical thing for anybody to do. Everybody knows of standardizing accounts.

Q. Your idea is that this General Staff is largely employed to look after things like that?

A. No, it has different duties.

Q. Tell us about some of the real practical engineering work that they do. Now, when any of the companies want to make any extensions, of course, they have to have some member of the General Staff to tell them how to do it?

A. Not on your life. That's a mistake. There are more men

here who can do this work better than they can.

Q. Right here in Houston?

A. Yes, right in this room; they know more about local conditions and are able to handle any of these problems themselves,—and a paper with reference to the matter gotten out in New York isn't worth the paper it is written on,—it isn't referred to New York.

Q. Mr. Hoag wouldn't know anything about an extension, would

he?

A. He certainly would, and the advice of the General Staff would not be required.

Q. Suppose he did it, do you suppose the telephone would work?

A. It would work beautifully; I would rather have him do it than anybody in New York.

Q. And do you believe that he could get it up economically?

A. Absolutely. It is very natural for this Company to have a clearing house to take care of these problems, because they own this

business and they ought to watch their own business.

Q. You don't mean to say that where they have got companies all over the United States, and in carrying on their Inter-state Commerce Commission business, and if they have to have representation before the Inter-state Commerce Commission that it doesn't help this Houston exchange engaged in the local traffic to have that man up there representing the companies before the Inter-state Commerce Commission?

A. I don't know of anything that would be of any benefit to them. We have had to meet the Inter-state Commerce Commission and have had attorneys there representing us

and doing the work just as Mr. Frank is here.

Q. But, Mr. Kelsey, where is there any benefit? Can't you tell us about the benefits to be derived from standardizing these accounts and getting up this system of bookkeeping that Mr. Blair-Smith has evolved?

A. They naturally should keep books and bring the accounting

down to where it can be understood.

Q. Don't the General Staff do any of that?

A. I guess not. They may have attended some of the meetings, but I think the best bookkeepers in the country have attended those meetings,—for instance, Mr. Bennett, of the Kansas City Home.

Q. What meetings are you referring to?

A. All of these meetings with the Inter-state Commerce Commission where this accounting was worked out; the Independent Telephone Association,—our men were always there at these accounting meetings.

Q. Well, the local companies are able to keep their books, are

thev?

A. They always have been, but it is a fine thing and they have a wonderful system of bookkeeping worked out as they should have.
Q. They have up-to-date methods of keeping their books?

A. I think the books are kept wonderfully well, and then they analyze themselves. Some of them have to have a special building to keep their records, covering six blocks—

Q. (Interrupting.) Just the Bell Companies?

A. All of them. That is one danger we are running into today,—too many records.

Q. A danger that who is running in?

A. It undertakes to make it so excessively prohibitive that they actually can't use it.

Q. Your idea is that as a result of all these added charges in

maintaining all these theoretical things, and paying high prices for them, they are making the service unnecessarily expensive?

A. Are you referring to the General Staff? Q. Yes.

A. They don't get any abnormal salaries; they receive very ordinary salaries, and the expense of running the whole service department isn't very many thousand dollars.
Q. But then it costs a good deal?

A. Oh, yes! to keep a lot of gentlemen on the pay rolls whose uncles are influential stockholders. They have got an elegant General Staff and get along beautifully. I have heard that story of the General Staff nine times.

Q. Who have you heard that story from?

A. Mr. Rhodes and his attorneys and the testimony hasn't changed a line since we began.

Q. Are you familiar with Mr. Rhodes' testimony?

A. I think I am.

Q. What particular thing has Mr. Rhodes pointed out--I 927 will ask you as a practical man, that is beneficial to the local exchange here, either by promoting this service and bringing it up to a higher degree of efficiency and working for economies whereby the service can be-

A. (Interrupting.) The only thing Mr. Rhodes hasn't claimed

is that the General Staff discovered America.

Q. But then it gets a lot of patents?

A. Yes, the Kellogg Switch Board & Yes, the Kellogg Switch Board & Supply Company started with 200 fundamental patents; anybody can get a patent and they are very often a liability on the market, but then patents are fine things and sometimes are an asset.

Q. Hasn't the Bell System in the Houston exchange got devices

here that the ordinary independent companies can't use?

A. I don't know. It may be that they have the Pupin coil here.

Q. I mean in the local telephone service?

A. Nothing that is locally used that has got any patent rights

whatever.

Q. Well, they must have given them the exclusive control of some devices that the independent companies would like to have to make the service good?

A. They have the so-called Pupin coil that is put on long lines.
Q. I want to find something in the local service.

A. Oh, that is used some times in traffic circuits, but the independent companies use them now where they are consolidated and taken over, or partly taken over. This thing is getting to 928

be a very complex proposition.

Q. What is the particular benefit of the Pupin coil? A. It gives transmission over long distance lines, but that was started by Oliver Harvey even before the Civil War.

Q. Didn't the General Staff discover that? A. Oh, yes, they discovered it all right.

Q. Well, who discovered that?

A. Oliver Harvey worked the whole thing out before the telephone—

Q. (Interrupting.) And before the General Staff was created?
A. It is nothing in the world but a force to control self-induction, and the capacity of the line is naturally,—that is, the capacity of the line for self-induction,—

Q. And they can, as I understand you, run the local exchange

without those?

A. Very well indeed.

Q. And are doing it in certain parts of the country?

A. All over.

Q. Well, what other patents are there that the General Staff has evolved and given to these companies?

A. I don't know. They claim the automatic too, but they bought

the automatic for \$4,000,000.00.

Q. Didn't they evolve the automatic?

A. They made fun of it until they found out that it was a fine thing, and then they had to buy it.

Q. Didn't some engineer on the General Staff discover that?

A. No, the first automatic man is in this building, but he never belonged to the General Staff.

Q. What great and really remarkable invention has the General Staff made? Just tell us of a few of those, will you?—not mere little petty inventions, but something grand and epoch mak-

ing in telephony.

929

A. I think that during the War they developed a larger cable, but they only did those things which they should do for themselves. They used a larger cable, and Rhodes talked a long while about a new sort of paper around the cable. They couldn't get any paper standard and the Rogan people did that too. It's a curious thing that they always do it first.

Q. Who did it first?

A. These independent companies and Q. (Interrupting.) They adopted that?

A. Yes, sir.

Q. As something practical?

A. Yes, sir.

930

Q. You never knew how to wrap wire in paper before?

A. Well, the Western Electric Company—Mr. Patterson did that and gave up his life to it,—the inventor of the cable proposition.

Q. Didn't the General Staff do that?

A. Oh, you never heard of the General Staff at that time. There was a group of fellows in Boston,—Arnold, Wells and Thompson, who called themselves some sort of staff, but they were "some" staff.

This General Staff is a creation of the American Telephone & Telegraph Company when they succeeded to the American

Bell Telephone Company.

Q. I wish you would point out to us one of the specific things that this General Staff does for the local exchange here that the local exchange couldn't get and wouldn't have if it was operating independent of the American Tel. & Tel. Company?

A. I don't know a thing that this bunch of boys couldn't handle and handle as well as the General Staff.

Q. You know of nothing here at all that the General Staff has

done that makes the service better than it would have been?

A. The service isn't anywhere as good as it used to be before they had the General Staff.

Q. What is the cause of that?

A. I don't know. The Bell Company of Missouri at one time was noted all around the world for its quick service, and I have never seen any service like that.

Q. Have any of these local exchanges any man in charge that

has got any particular money invested in it?

A. No, that's the trouble,—absentee landlordism. That is the whole trouble of the organization, and instead of working for the organization they are working for more pay which is necessary.

Q. Why, Mr. Kelsey, down here in this Coast Country there is a beetle that drills through the lead casings and gets into the

931 wire.

A. Yes, I have heard all about that bug.

Q. Well, what work would have been done in regard to that if it

hadn't been for the General Staff?

- A. That bug started in Australia before the World's Fair and Mr. John Heskott told us all about that bug before the St. Louis World's Fair.
 - Q. Well, the General Staff didn't discover the bug?

A. No, it came from Australia.

Q. It is an Australian bug?

A. Yes.

Mr. D. A. Frank: May be the General Staff brought the bug over. A. No, but they probably did introduce the English sparrow.

(By Mr. Howard:)

Q. Didn't the General Staff find this great drawback to the telephone industry along the Southern Coast Country and overcome it?

A. Oh, yes, I suppose they did-no more than these fellows that

found the hole and had to fix it up.

Q. Well, ain't it generally recognized then as being responsible for overcoming the bug?

A. No, that bug is absolutely an importation; it came from

Australia.

Q. Well, somebody up there at the American's General Staff discovered how to put more carbons in a typerwiter, or something like that; wasn't that of great benefit to the local exchange,—made

932 more copies than they used to make?

A. Oh, I haven't any idea.

Q. Other people know how to us manifold machines as well as the American Staff?

A. I think we used to have them and do have them yet; the Elliott-Fisher people seem to know how to get along with that.

Q. Now, Mr. Kelsey, in some engineering problems which they have which come up in an exchange like this, there must be some

knowledge that they get from New York that we couldn't get down here,—in constructing a plant and laying out a plant. There is some advice that they have to get from New York and have to get

from Mr. Carty or some of those other engineers there?

A. I don't think John J. could do it. It has been so long since he tried it, and these boys here can handle these problems all by themselves much better and don't need any help, and I have no doubt but that the Southwestern has boys who have more ideas than are ever worked out in New York.

Q. Their experts in the Commercial Department come down here and tell these gentlemen where they are making their mistakes,

don't they?

A. That's the easiest thing in the world—to tell any man where he makes mistakes. That's the softest job a man can have.

933 This General Staff is a remarkable institution and—

Mr. D. A. Frank (interrupting): We agree with Mr. Kelsey on that, your Honor.

(By Mr. Howard:)

Q. Then, as I understand it from your experience and knowledge of the telephone industry, this thing about the services rendered in the line of engineering, accounting, commercial advice and legal advice—why, they have got some lawyers up there in New York that tell them——

A. (Interrupting.) Well, they haven't got a lawyer as good as

Mr. Frank.

Mr. D. A. Frank: I want the record to show that I thank Mr. Kelsey for the compliment.

A. I mean it, too.

(Mr. Howard:)

Q. Isn't it a fact that telephone men with the knowledge and experience in this industry—I am speaking seriously now, Mr. Kelsey, and would like to know if there is any one thing in the field of engineering, commercial advice, legal advice, standardizing accounting methods, keeping of books and research and experimental work that is of any benefit to the—practical benefit to the operation of this local exchange, and that can—that tends to promote, to build up its service,—build it up above that of a well

managed independent company, or that tends to lessen the

934 expense of the service?

A. No, it does not tend to lessen the expense of the service, but adds to it. They tried to bring some testimony here in the last case where a single cord saved \$2.00, in the last two years, after about a two days' examination of one of their engineers.

Q. They have got a cord here, and what is there about it that—
A. (Interrupting.) It is the same tinsel cord that was practically in use in 1898. That cord was used in the Northwestern switch-

board in 1899 by Mr. McBurtie. I kept a record there on my trunk "A" board and cut the cords off myself. That cord was evolved by the Western Electric Company boys,-making those cords and testing them, and they have a wonderful organization. This General Staff, I tell you, is composed of nice college graduates, and most of those boys' ancestors managed to hit that boat that landed at Plymouth Rock.

Q. What about the Western Electric Staff?
A. Between the two staffs, I think the Western Electric staff is the better of the two. I know them all, and the most of them are graduates of Perdue University and are now in the Western Electric General Staff: they secure the best men that are to be had, and I wouldn't trade the Western Electric Staff for the General Staff.

Q. Mr. Kelsev, you are a graduate electrical engineer, are you

not?

A. Yes. 935

Q. And you have been professor of-

A. (Interrupting.) Yes, that will do.

Q. —Electricity in a reputable university?
A. Yes.
Q. Perdue University, of Indiana?

A. Yes, and I think the Southwestern knows Mr. J. G. Grain, I

am pretty sure that they do, and-

Q. (Interrupting.) And you are conversant with the scientific world as to patents with reference to electricity as applied to the art of telephony?

A. Yes.

Q. What world figures are employed on this American Staff?

A. What what? Q. What world figures?

A. None.

Q. Have they no men on that Staff that stand out in the scientific world as men of preeminence in the way of ability?

A. Not preeminent ability, but very fine fellows.

Q. Well, this man Carty is a good man?

A. John J. is right there and is an average engineer; Mr. Gherardi is a good man, and Mr. Stephens.

Q. Where did he graduate?

A. Mr. Gherardi I think is a graduate of Columbia, and I don't know where Carty came from,-the university of experience. I would imagine.

Q. How many of these men on that Staff, if you mention 936 them, are there that would be identified at once by men fairly

conversant with the scientific world?

A. Charley Scrivener was really, I think, the best known man the Western Electric Company ever had and the best known as a scientist among the world's thinkers. He made the mistake of letting the automatic go by and they succeeded him by another gentleman, a professor from the Massachusetts Institute of Technology, Mr. Jewett, As a matter of fact the organization is mediocre and doesn't measure at all up to the standard set by the Western Electric organization.

Q. As a matter of fact, in the engineering field, commercial field, accounting field, and in the handling of traffic, they can render or do render no services that can not be as well performed by any reasonably well equipped engineer locally?

A. That's true.

Q. There is one tangible thing that we can put our fingers on, and I want to analyze that a little, and that relates to the induction coils, transmitters and receivers. You stated that these things could be produced for \$2.00 a set?

A. Well, \$2.00 for each piece,—\$2.00 for the transmitter and \$2.00 for the receiver, and I think a dollar and a half for the induc-

tion coil. I think that's what Mr. Wilson put in in Columbus, and I don't remember the old price.

Q. How much do these things cost?

A. Well, we made the transmitters for \$1.60, the receivers \$1.00 and the induction coils, I believe were 40 cents, but then the prices have gone up. Rubber and shells have advanced and the price of cords has advanced. There is nothing to the transmitter, receiver or induction coils,—they are very simple devices.

Q. Well, do you know what a set costs?

A. They claim now it costs \$5.50; the old price was \$3.00.

Q. Now, you are speaking about the selling price. Can you tell

us anything about the manufacturing cost?

A. Well, if you will take 25% off you will find the manufacturing cost, that will give you 25% profit,—no, you would have to take 16-2/3rds. There is nothing mysterious about a transmitter, receiver and induction coil; everybody makes them, and as I say, you can put them in the same shell and a man would not recognize his as his own.

Q. Well, if these things are worth \$5.50 a set, a reasonable return on these sets, wouldn't be very much, would not amount to as much

as 41/2%?

A. What do you mean by 41/2%?

Q. 4½% on the gross receipts,—you know what that is?

A. Yes, but how does that situation enter into the situation in this town; these telephones don't cost \$5.50, the average cost is

\$2.42 per set; that's what they have cost up to the present time, and you can't come in here now and collect on present day prices.

Q. You are talking about the selling prices and not manufacturing prices?

A. Yes.

Q. Can you tell us what it costs to manufacture these sets at present day prices, have you made any estimate as to what it costs to manufacture these sets at present day prices?

A. We have rebuilt them by the hundreds, and it would be the most profitable part of the business,—the manufacturing part—

Q. (Interrupting.) Didn't I understand you this morning to say that at a dollar and two dollars and a half, that you could manufacture them for 50% of that?

A. Easy. It ought to run from-the shop cost, a good deal of the shop cost-

Q. (Interrupting.) What is there in the manufacture of these

things, Mr. Kelsey, that's difficult?

A. They are manufactured with a punch press and are just punched out by the thousands.

Q. They are manufactured a good deal like you manufacture

tacks?

A. Just about the same.

Q. What is there about that little induction coil that should cost anything like 75 cents?

A. It is an outrageous price for it.

Q. Couldn't it be manufactured as low as 25 cents? 939 A. Oh, yes, they sold for 40 cents years and years,-

sold for 40 cents for years and years. Mr. D. A. Frank: They could not be manufactured today for

that?

A. No, I will tell you, copper wire costs are a little high. The expense of a shop is the overhead, it isn't the direct punch work, the machine work.

(By Mr. Howard:)

Q. Couldn't they be manufactured at present day prices in quantities by machinery, at the most for 50 cents?

A. Yes, I would like to take a contract to furnish them on the

basis of that price.

Q. Then adding another fifty cents, that would be \$1.50 per set and adding another fifty cents to it, that would be thirty three and

a third per cent or, that would make it \$2.00?

A. Yes, as a matter of fact, it would be commercially wise for them to cut out this rental of instruments, and go ahead and use them the way other people have demonstrated for thirty years is the way to do.

Q. Buying them?

A. Absolutely uneconomical.

Q. Well, the only purpose of that is to camouflouge the four and a half, isn't it?

 A. That is my opinion.
 Q. That is the only tangible thing they can put their — on 940 at all?

A. It is the only tangible thing in that contract.

Q. All right now, we have manufactured these sets for \$2.00 a set and making thirty three and a third cents profit out of it.

Mr. D. A. Frank: Well, you haven't allowed anything - induction cords, yet?

Q. You said in manufacturing each one of these instruments, there's three of the-, for fifty cents a piece, didn't you?

A. Well, this started with this idea, that Mr. Wilson advanced-

Q. You are talking about prices now.

A. I am talking about getting down and turning these things through the machine. After you can turn the induction cord through the machine for forty cents a piece.

Q. The transmitter for fifty cents?

Q. And the receiver, fifty cents?

A. Yes. Q. That is \$1.50. Then adding another fifty cents, which would be thirty three and a third per cent, to a dollar and a half, you have got \$2.00 for the set of three. All right. Now you have got, say, thirty thousand sets at this exchange here, that is an invest-

941 ment say of \$60,000,00?

A. Well, where you stop was the misleading factor. Now you have got some freight and you have got a lot of things, coming down here, they have to be handled, I think \$2.50 is about right.

Q. You think \$2.50 is about right?

A. Yes sir.

Q. Allowing thirty three and a third per cent profit? These are not very bulky things. They ship them down here by the thousand and by the hundreds, don't they?

A. Well, every manufacturer has just a little pride in keeping his

prices up.

Q. Well then these things, knocking around the factory a good deal the way, they have bolts and nuts?

A. Oh no!

Q. Well, say \$2.60 and we have got thirty thousand here, that would be

A. \$78,000.00.

Q. \$78,000.00. And allowing depreciation and rent and everything upon that, they could be kind of liberal about it, say fifteen

A. Oh no, they will last twenty years. They never give way.

They never wear out.

Q. You think fifteen per cent is very liberal?

A. There is nothing about a transmitter, induction coil or receiver that wears out in twenty years.

Q. Well, say fifteen per cent.

942 A. I have repaired a thousand transmitters that were built in 1002 and these terminals are as good as ever, all it needed was a new rubber band and a renickeling and it returned on a new journey every twenty years.
Q. Well, allowing them fifteen per cent for returns, depreciation

and everything, that would be \$11,700.00 a year?

A. How much are you allowing, Judge?

Q. Fifteen per cent.

A. I would not allow that.

Q. But allowing that, that is \$11,700.00?

A. Yes.

Q. How does that check with your rental of \$13,000.00?

A. Pretty close doesn't it? I attack that proposition because this company flooded the United States with that proposition of fifty

cents, they fought us tooth and nail to ruin us and when they couldn't sell the instruments to the independent companies, they went and made them a blanket offer of fifty cents. They did it all over the country. They did that when we tried to put the switchboard in the City of Chicago.

Q. Mr. Kelsey, when you can turn out a box of matches like that and put it in a box and sell it for a penny, fifty cents looks like a pretty big price for turning out a standard piece of apparatus.

A. Well, the rule is to multiply your shop cost by five; something costs fifty five cents in the factory, you try to make the public

pay \$2.75.

Q. So there is nothing mysterious or particularly valuable about these little instruments, but all this \$5.70, is all built on-it is built up principally-

A. (Interrupting.) It is a recent discovery.

Q. Well, you say, even taking this upon the investment basis, allowing them a return upon their money and depreciation upon their property, that fifteen per cent-well, you say it is high?

A. Yes. Q. That checks out \$11,700.00? A. I still insist the company ought to own their own transmitters and receivers; it would be more feasible and sensible.

Q. That's all that you discovered for this four and a half per cent?

A. I don't want to go on record as not saying that the General Staff don't have some good points. A company like this ought to have something like that. It is their own property, it has got to be watched.

Q. This staff grows out of the fact that they operate on such a stupendous scale that they have to have an organization to take care

of their own properties?

A. Well, the long line companies need an organization, but the excuse for the General Staff is really not there at all. I tell you seriously, I would rather have, as I said, I can name men in

this Southwestern organization that can run rings, if I can use that term, around anybody in New York, and I can begin with Charlie Dick, and George Branch, and this man and that man. I can name them all. It is absurd to think that theoretical bunch down there can govern this crowd here. I think it is economically wrong and is weakening the moral of this organization, and it is leading to disaster in time. They get so, by and by that they feel they can't do anything without getting some fellow with the latest cut from New York. I think it is wrong.

Q. Mr. Rhodes, talked about Mr. Frank, said he goes up there

just as often as he can to get legal advice.

Mr. D. A. Frank: Did Mr. Frank make that statement? Mr. Howard: I did not undertake to quote it verbatem.

Mr. J. D. Frank: I would like to have that statement. Mr. Howard: I thought before that you were counsels, but it

seems it is all done in New York.

Mr. J. D. Frank: I think what you are referring to is when I was questioning Mr. Rhodes, if he had seen me in New York.

945 Mr. Howard: Yes, he said the General Counsel was seen around up there a good deal.

Mr. D. A. Frank (reading from the record):

"Q. Did you see me up in New York, getting information in the last few months?

A. I remember seeing you there.

Q. The attorneys of the Bell system of the United States are taking advantage of the legal department of the American Telegraph and Telephone Company?

A. I see them frequently when I have occasion to be in the por-

tion of the building that the legal department are.

Q. You see the General Counsel of this system, up there frequetly do you?

A. Yes.

Mr. J. D. Frank: The questions were asked by J. D. Frank. Mr. Howard: Oh, yes, when you get to the end of the row, you

chase up there,

Q. There is nothing further then, you can tell us about the service

of this general staff?

- A. Getting back to the legal department: Mr. Chipley won his battle in the southern territory without any help and I think it is a fine thing for somebody to keep books, study records, and such as that, but when you say that Mr. Morsbund can't handle Nebraska and Mr. Dillon can't handle Minnesota and Mr. Frank can't handle Texas-
- Q. But, Mr. Kelsey, haven't they here, in all these local exchanges of the Bell System, haven't they got competent 946 bookkeepers-

A. (Interrupting.) You bet they have. Q. (Continuing:) And office force?

A. They really have as good a bunch of accountants as any organization. I have explored them all.

947 Cross-examination.

Questions by Mr. D. A. Frank:

Q. Let's talk about this 41/2%. You qualified as an expert.

A. No, sir, but I have heard about this Board of Ignorance ever since it was a baby.

Q. Have you ever been a member of the General Staff?

A. I hope not. You couldn't get on that with an injunction. Q. Have you ever been in charge of the Southwestern Telegraph & Telephone Company's property?

A. There was a time when the Northwestern people had a great deal to say about what went on down here. We used to know just about as much about the Southwestern as they did.

Q. What was your position at that time?

A. Acting Chief Engineer of the Northwestern Bell Telephone Company.

Q. At \$75.00 a month?

A. I was the highest priced man in the organization.

Q. And on that rate you had charge of the Southwestern property in Texas, at \$75.00 a month?

A. No, sir, but we were repeatedly told how much better they were down here than we were.

Q. What do you know about the General Staff?

A. I ought to know them by heart. I have heard this same stuff so much.

Q. Is that the only way?
A. I know all of them.

Q. Have you ever been through the laboratory?

948 A. Yes, sir, and all through the Western Electric's laboratory, and all of them. They are jokes.

Q. What do you say? A. They are jokes.

Q. Everything that has been accomplished in the telephone world

in the last forty years by the Bell General Staff is a joke.

A. No, sir; any group of men sitting around and talking telephones all the time gradually—they haven't done anything signal yet, comparatively infinitesimal. There has never been a telephone invention worth looking at outside of the original transmitter. There will not be a word in history about the telephone business so far.

Q. Would you admit that Mr. Graham Bell invented the tele-

phone?

A. I think he was absolutely the first one working on that very thing. He came by it honestly and naturally, but that is not the General Staff.

Q. Is the telephone plant today in any way comparable with Mr.

Bell's invention?

A. No, sir, it is an evolution, the poorest evolution that ever was. I am absolutely ashamed of the scientific advance of the business; and for the number of men employed by the General Staff, they have produced less per dollar than the Kellogg bunch ever did.

Q. The men in this room are better than the men on the

949 General Staff?

A. I would rather have most of them than anybody I have seen. Charley Gates has no superior, and I want to tell you right today, if the Northeastern Telephone Company had the difficult problems that Charley Gates has had all these years, and kept his health, they would have been in the lunatic asylum years ago.

Q. You could take these eight or ten gentlemen-

A. (Interrupting.) And they would make the Northeastern Telephone Company.

Q. And set up a General Staff with them, and they could do very

much better work than-

A. (Interrupting.) It is not remarkable to say I think they would.

Q. They could make all these new inventions and all the new improvements?

A. What new inventions?

Q. Aren't there any?

A. No. sir.

Q. Five thousand inventions, the testimony in this case shows.

A. What?

Q. Five thousand inventions.

A. You are talking about patents.

Q. You think these gentlemen could replace the entire General Staff without loss?

A. The two hundred Kellogg patents that Kellogg had when he went into business were worth more money than all the 950 patents you ever had.

Q. Including the original transmitter?

A. What right did you have to that? Anybody can make a transmitter. I can take a dish pan and talk from here to New York

Q. You would have to have something else besides that?

- A. Yes, sir, I could fix it up with what I could find in the postoffice here.
 - Q. You would have to have something else besides that?

A. A few wires.

Q. Anything between here and there?

A. I talked from San Francisco to New York as plain as I am talking to you, over the first instrument. You haven't made any progress with them.

Q. Did they have phantoms when they first started?

A. Phantoms long before the General Staff ever got under way. I was phantoming between—all over South Dakota before this staff was ever heard of.

Q. Did you have any repeaters?

A. Not at that time.

Q. From New York to San Francisco?

A. Later on we had.

Q. Can you talk from New York to San Francisco without repeaters?

A. I believe you can, straight line. They didn't try it, I guess,-I don't know.

Q. Do you think all the work that has been done by the 951 General Staff has been wasted?

A. I want to put in this record that when I made my address to the Wisconsin Convention at Madison from California that I had to use a Kellogg telephone before I could get them to hear me.

Q. I asked you a question, Mr. Kelsey,-do you think that the work of the General Staff has all been wasted?

A. The most extravagant waste in history.

Q. Do you think there is anything in standardization?

A. Yes, sir, but you can't standardize. Q. I think they have standardized.

A. There hasn't been, you haven't done it.

Q. Don't Bell construction in St. Louis look about like Bell construction in Houston?

A. You have standardization, plus local conditions. You have entirely different conditions at different places.

Q. Isn't a poll set about the same way all over the country.

A. Yes, sir; the best line I ever saw was from St. Paul to Minneapolis.

Q. Aren't the cross arms about the same size all over the country?

A. Yes, sir.

Q. And aren't the pins on the cross arms set about the same distance apart?

A. Yes, sir, they ought to be.

Q. Aren't the switch boards about the same kind?

A. No, sir,—Type 8, 9, 10, 1 and 1-A,—I can't enumerate the number of types you have got.

Q. There are some things that are standard about it?

A. No, sir, there is nothing standard about a switchboard.
 Q. Do you have some switch boards in the country where a girl

has to have an arm four feet long and other places two feet long?

A. No, sir, you are limited in size to a 9,600 line board, otherwise

she would have to have a step ladder.

Q. You do standardize something, even about a switch board?

A. There is a limitation on your great, unwieldy jacks, your No. 92 jacks. Even the Kellogg Company builds 18,000 line boards and the poor old Western Electric Company is limited to a 9,600 line board. We have been pioneers in this work.

Q. Can the Kellogg Company supply an 18,000 line board?

A. Yes, sir, if they have an order. Q. You haven't had any orders?

A. No, sir, you fellows have grabbed the field.

Q. How long has it been since the Kellogg Company has installed an 18,000 line board?

A. Every board that has been installed has got that much of a

foundation.

Q. How long has it been since they did that?

A. All of our sections were 18,000 line sections. That is all that is necessary.

Q. Just mention one place where they have installed it in the last year.

953 A. An 18,000 line board?

Q. Yes.

A. I am talking about 18,000 line sections.

Q. Switch boards?
A. You are foolish.

Q. I may be.
A. You know you are. Whoever heard, in their life, of an 18,000 line board. You generally start with a thousand-line equipment. They have the foundation for an 18,000 line board, and all your Company ever had was 8,800.

Q. Do you now of a single board of 18,000 lines?

A. Cleveland has got one. They had one that is out of business and you could have bought it. I bought it and have got it in my shop.

Q. Cleveland is the only one that has one working now?

A. You have lied about it enough to beat the securities down-

 Q. You are using a word that is not permissible.
 A. I don't like the word "lie" myself; I beg your pardon for that. They didn't lie about it, but they did misrepresent it.

Q. I think that would be more polite to the Court.

A. I apologize to everybody when I have. I am a very humble

Q. Then you don't know of a single place, besides the one exchange in Cleveland, where they are using an 18,000 954 line switch board?

A. They are using it all over this country.

Q. I asked you to name all the boards operating 18,000 lines.

A. I think Logansport is operating 18,000 lines.

Q. Is Logansport operating 18,000 lines on one switchboard?

A. They have a board that could operate it. Q. I didn't ask you whether they could. I asked you whether or not Logansport is operating 18,000 lines on one board?

A. No, sir, they are operating about 4,000 lines on one board

which has possibilities of 18,000 lines.

Q. Tell me any town that is operating 18,000 lines on one switch board.

A. St. Louis has 12,000 lines.

Q. I am not talking about 12,000 lines, but about 18,000 lines.

A. That is the next largest one.

Q. And this one that you have in your "junk" shop——A. (Interrupting.) That is the Old Cleveland board.

all junked and sold.

Q. Now, Mr. Kelsey, you named yesterday, when Mr. Howard asked you if any of these men on the General Staff were men of world wide reputation, you named seven, eight or ten men?

A. I don't think I named that many. I remember naming

Charley Scrivener.

Q. Well, you named John J. Carty?

955 A. Yes, I think John is a good man, and I love him dearly.

Q. And Mr. Gheradi?

A. Yes, sir; and I mentioned Mr. Stevenson as a very capable

Q. And you named Mr. Watterson?

A. No, he is a fine fellow, but I wasn't talking about him as a scientific man.

Q. Isn't Watterson a scientific man?

A. Oh, no indeed. He is a pseudo scientific man and has that reputation, too, but then to get out in the world as an engineer-

Q. (Interrupting.) Isn't he an engineer? A. I don't know. I heard him testify in the Central Union case. Oh, I will tell you, I have got them all.

Q. Well, take Mr. Rhodes. Is Mr. Rhodes an engineer?

A. Rhodes isn't a scientist by a long ways. He is getting to be

first-class,-getting to be a first-class witness; he has told his story so often that he knows it very well.

Q. Isn't Estabrook-

They have taken him off. Poor old "Esta" A. (Interrupting.) we missed him terribly at Cleveland.

Q. Mr. Cox is not a scientific man?

A. He is a good fellow and I am not saving anything against him.

Q. Do you know Mr. Theodore N. Vail?

Theodore has been a very successful financial man, but not a scientist. If I had, or if you had spent the money advertising yourself, as much as Mr. Vail has had spent on him-956 it is nothing in the world but propaganda, pure and simple.

Q. Mr. Vail is the result of advertising? A. Beautiful advertising propaganda.

Q. He is a sort of a trade name, trade mark for the Bell Company?

A. I think he is. I have a great deal of admiration for Theodore Vail and I have boosted him more than any man in my paper.

Q. And he is a man that the Bell Companies spent a great deal of money on in advertising, and is just something like the picture of the old Dutch-

Just old Cincinnatus sent out to play,-to A. (Interrupting.) get him because the Company was going on the rocks.

Q. You have seen the picture of the old woman-A. (Interrupting.) Yes.

Q. And you just consider Mr. Theodore N. Vail as a trade mark for the Bell Company?

A. I consider him—I would not like to say that,—he is a nice old man.

Q. Do you know Mr. Thayer?

A. Yes, Henry Thayer, and he is a nice man. He is the nicest man in the whole outfit, and I think that Henry Thayer, as President of the Company, is the best selection they have ever made.

Q. Colonel Jewett, is he a man of any prominence?

957 A. Oh, no.

Howard: We wish to object and protest against this useless repetition and nonsensical stuff being piled up in this record and unnecessary costs being piled up against these litigants in this case, and I insist that it is a useless expenditure of time and money.

Mr. D. A. Frank: You went into it yourself.

(By Mr. D. A. Frank:)

Q. Do you know what Mr. Vail does for the Southwestern Company?

A. Very little. He doesn't do anything; he is Chairman of the Board. They have put him on a nice, big comfortable shelf.

Q. Do you know Mr. N. T. Gurnsey?

A. Yes, and I don't think he is as good a lawyer as you are. Q. You don't think that he is as good a lawyer as I am?

A. Yes,—I don't think he is any better.

Q. He is General Counsel for the Whole system?

A. Yes; they brought him from Iowa, but he is not an international character, or what you would call a scientific man or a-

Q. (Interrupting.) Is he a man of any standing in the American

Bar Association?

A. Oh, he may have been President. He is a good mixer, and I like to talk to him and discuss things. Every time I go to New York I go to see Mr. Gurnsey. You are trying to make me say something mean about him, and I do not think it's fair. 958

do insist that, as a rule, the whole organization, as compared with the Steel organization and other institutions of similar

size-

Q. (Interrupting.) Now, Mr. Kelsey, that General Staff there performs certain services which have been detailed here before the Court?

A. Yes, as a sort of a clearing house, as I have said.

Q. Your idea is that it is all useless?

A. Why, no, it isn't useless, but that's all the A. T. & T. Company in New York-it is their duty to look after their own business and to see how it is getting along.

Q. Did you ever hear of Mr. Du Bois?

A. Why, yes, I know Du Bois as well as I know you.

Q. Do you know Mr. Gifford?

A. Yes. Q. They perform some services for us also?

Q. Do you happen to know, Mr. Kelsey, that the Southwestern Company's books are audited several times a year by auditors sent

out by the American Telephone & Telegraph Company?

Yes, and I know that after all of your books are audited you then have them audited by my old friends Patterson, Teale & Dennis; after they all get done, you have to get Patterson, Teale & Dennis to see whether they are right or wrong, and this shows that you

fellows aren't infallible.

959 Q. Don't we save something on the auditing?

- A. No, sir, there is not a man in the Southwestern Company but who has sense enough to run the books under the new order.
- Q. Doesn't every business get an outside auditor to audit their

A. Yes, and there are auditors in Dallas or Houston that can tell you all about your books.

Q. And don't they have to be audited in turn by outside auditors?

A. I don't think so, no, sir, not under the present system of bookkeeping.

Q. Now, with reference to engineering services, I believe you say that is all-

A. (Interrupting.) Bunk.

Q. All bunk?

A. Yes

Q. And the work done by Mr. Carty in the last twenty years for the Bell System has been thrown away?

A. What has Carty done?

Q. You think the work done by the General Staff has been thrown away?

A. There has been nothing signal turned out in the last 20 years.

Q. What about the new accounting system?

A. That new system of accounting that was evolved—there were other people there besides Bell representatives,-the railways and everybody else.

960 Q. Has the Southwestern Company evolved its own sys-

tem?

A. No, sir, they have not got their own system. The Kansas City Home have got the same system. All of these companies-

Q. (Interrupting.) Where did we get the system, from the American Telephone & Telegraph Company, didn't we?

A. No, it was evolved in accordance with the Inter-state Commerce Commission's rulings.

Q. Did our accountants here in Houston evolve the system we

have?

A. No, I have told you time and again that it was done in connection with the Inter-State Commerce Commission's-the auditors of the Inter-state Commerce Commission in conventions have consulted us and they have had with them the whole bunch. That's why it's uniform and standardized. You folks didn't discover that word "Standardized."

Q. So at least the accountants here in Houston didn't evolve the

system that they have, did they?

A. Well, they could easily do it,—there is nothing mysterious about it-

Q. (Interrupting.) There isn't anything mysterious about any-

thing, as I understand you?

A. You can absolutely do it yourselves and do not need any accounting assistance from anybody in New York. I think that is a slam on Texas.

961 Q. All the work that has been done by the Accounting Department in New York for the City of Houston has been

thrown away?

A. What did they do? What have they done for the property in the City of Houston? They haven't done anything since that was put over. They have set up the forms and keep charging for the same thing year after year.

Q. Don't they continually perform services? They don't amount to a hill of beans. A.

Q. What is money worth on the market now?
A. The Western Electric Company is quoting \$20,000,000.00 worth of notes today at 73/4 %.

Q. Those are secured by-

A. (Interrupting.) No, by the word of the Western Electric Company.

Q. They are notes that must be sued upon?

A. We bought some,-bought \$10,000.00 worth, and were glad

to get them and are glad to get any kind of a loan above 7%.

Q. What does stock produce now,-stocks listed on the New York market,-take Santa Fe stock, B. & O. stock, or American Telephone & Telegraph Company stock?

A. I know some of them. I know what it-

What do they produce? If you invest Q. (Interrupting.) \$100,00 on the stock market in New York, what per cent would you get out of it? 962

A. If you buy A. T. & T. at 97 it might run a little more than 8%; if you buy Western Union at 86 it might run-you

might earn 8.1% on your money.

Q. So on the stock market today even the very best stock is selling

at 8%, or better?

A. Yes, money is naturally high and a man will not invest it at

5% where he knows he can get 71/2%.

Q. The evidence in this case shows that this plant in Houston needs \$500,000.00 new money for the coming year for improvements to be made in the City of Houston-

A. (Interrupting.) Well, they won't have any trouble in get-

ting it.

Q. What per cent will they have to pay?

A. I imagine this Western Electric Company loan at 73/4 % is to take the place of some accounts,-some of these companies-that some of these companies have bought. I think the Western Electric Company is doing the financing for you folks.

Q. You think the Western Electric Company is loaning us

money?

A. Oh, no; but you owe them just about twenty million, and it is a very curious coincidence that this loan of the Western Electric is just about the amount of the note issue.

Q. And about how much for new investment will the American Telephone & Telegraph Company and the Associated Companies

have to get?

- 963 A. They will have no trouble getting sixty to one hundred million.
- Q. Hasn't it been from one hundred to one hundred and twentyfive million dollars?
- A. Not until the last couple of years have you been getting up above sixty million.

Q. We could use three times that much if we could get it?

A. Of course you could, and I could too.

Q. Thousands of people are putting telephones in in this city and we can't furnish them because we couldn't get money, but if we wanted to sell stock on what basis would we have to sell it?

A. Who? Q. The Southwestern Company.

A. You are not in this money market and you have no stock to sell, not one particle of stock is for sale in Texas, except to the A. T. & T. Company.

Q. How can we get money for this \$500,000.00 in Houston?

A. How did the Central Union get money from the A. T. & T. Company all those years when they lost money year in and year

Q. Where did they get it?

A. They got it from the A. T. & T. Company; it's their own business.

Q. Do you know what they charge us for it?

A. They charge themselves for the money: The A. T. & T. Company owns this property and are financing themselves, and it is a wonder to me that they don't charge 20%. 964

Q. The testimony in this case shows 5.88%.

A. Yes, and you may say that they lost money and probably paid 6% for it, but then you are loaning yourself money, and you take away from the Southwestern Company its ability to grow in Texas.

Q. If the Southwestern Company is borrowing money from the American Telephone & Telegraph Company at 6%, or what's equivalent to 5.88%, and the A. T. & T. Company is paying 8%, or better, for it in the world market-

A. (Interrupting.) It is not, though.

Q. Where are they getting it?

A. Are you-don't forget the little 51/2% and 6% interest that you are talking about. The stock is paying 8% and the A. T. & T. isn't floating any 8% loans. The A. T. & T. 6's-you can enlighten

the Court quick with your reports.

Q. Didn't you know that the A. T. & T. Company has just passed or is about to pass—that the stockholders of the A. T. & T. Company have just passed a resolution to increase the stock, the authorized capital stock of the company from \$500,000,000.00 to \$750,000,-000.00?

A. Yes, but what has that got to do with the case, because the

necessity of bond issue possibilities-

Q. (Interrupting.) When you start to sell stock, you can sell it at less than 8%

A. Oh, you are handing it out as fast as you can at 97, and 965 I have understood that you sold some for less than that,about 2,000 shares.

Q. They sold at 92½ and paid 8% on it?
A. You don't have to pay it. You can sell stock at any price; a man who buys a share of stock doesn't buy anything.

Q. But the man who buys the stock thinks that he is getting 8%?

A. Yes.

Q. And because he is getting it, he certainly hopes to get it in the future?

A. Yes, and my wife has 25 shares, too.

Q. From the standpoint of the Southwestern, is it worth anything to us to get money at 6% when the American Telephone & Telegraph Company has to pay more than 8% for it?

A. What are you talking about? The A. T. & T. Company is

taking care of its own property.

Q. You can't see the proposition that the Southwestern gets any money from the A. T. & T. Company?

A. No, it is all one company, and you are taking your left hand

and loaning your right hand money.

Q. And there would be no objection to charging the Southwestern

eight, ten or twelve per cent?

A. Where the A. T. & T. Company got money for you didn't you develop the Southwestern from a wreck and maintain it phys-966 ically and develop-

Q. (Interrupting.) Answer my question.

A. What was your question?

Q. I said, them there would be no objection to charging the Southwestern Company eight, ten or twelve per cent for the money?

A. Why, no.

Q. No objection at all?

A. Why, they are simply charging themselves that, and it would be just the same.

Q. You think the A. T. & T. Company is obliged to let the South-

western have money at 6%?

A. Why, no,-they own the property, and why wouldn't they? It wouldn't make any difference at the end of the year, and you would have the same amount in the treasury, whether they charged 10% or 3%.

Q. And so you see no value in the financial arrangement between the Southwestern Company and the A. T. & T. Company?

A. Financial agreements between two companies owned by the

same persons are very touching.

Q. The testimony in the case shows that the 41/2% agreement was entered into at a time when the Southwestern Company was entirely independent of the American Telephone & Telegraph Company.

A. I think that is the silliest arrangement. I can't imagine an institution that ought to be as intelligent as the American 967 Tel. & Tel. Company which will continue to proceed with the

41/2% clause,-it causes more trouble and more expense fighting for the fool thing,—you have got orders to fight for the $4\frac{1}{2}\%$ more than anything else, and everything else is to be thrown overboard, but sustain the 41/2%.

Q. Who gave me the orders?

A. I don't know.

Q. You are swearing-

A. (Interrupting.) Yes, I am swearing, and I am perfectly satisfied and tell this Court, whole-hearted, that your principal duty in this case is to sustain the $4\frac{1}{2}\%$.

Q. Well, from whom did I get the orders?

A. I don't know.

Q. What makes you think I have such orders as that, Mr. Kelsey?

A. Because that is considered of more importance than some of the-

Q. (Interrupting.) Suppose I told you there wasn't a word of truth in it?

A. In other words, I am a liar?

Q. Call yourself what you please, but there isn't a word of truth in what you said. I am under no orders.

A. Well, may be

Mr. Howard: Are you testifying, Mr. Frank? As long as you have raised that issue, I would like to have you take the stand and let me question you about it.

A. I will eliminate that service charge for no other reason than what they are doing in New York; We all know what any common sense concern would do, which is to protect its own property anywhere in the United States.

(By Mr. D. A. Frank:)

Q. Mr. Kelsey, you have got a good deal of animus against the American Company?

A. Not a bit. I have got a great deal of admiration for them,

but I think the present scheme is a fool thing.

A. And I think the big bankers think so, too.

Q. Have you ever talked to any bankers who knew anything about—

A. (Interrupting.) Nobody ever knew anything about the Bell Company.

Q. You also have some little feeling against the Western Electric

Company?

A. Not a bit in the world. I worked for them for years and put out the first boards—

Q. They beat you out of a lot of sales?

A. You bet! And I love a competitor that fights.

Q. And you are getting back at them?

A. Not a bit. I would just as soon testify for you fellows, and did in a case once brought against the Bell Company, against the industry, and I haven't been paid yet for the trip.

969 Q. And you want to take it back because you were selling

a Kellogg switch board to Mr. Noble?

A. No, he had a contract with the A. T. & T. Company for 4½% and John Noble asked me to come.

Q. Why did you come?

A. He asked me to come,—John Noble did, and I am sorry I did, because I never got my per diem.

Q. Did you get any at all?

A. No, and that's the only time I was ever skinned.

Q. If we eliminate the license contracts entirely, and didn't have the 4½% arrangement, each one of the Associated Companies would have to perform all of these services for themselves, wouldn't they?

A. Yes, sir, it is very easily done. Q. You think that would be easy?

A. Yes, sir.

Q. Would they get the same service they are getting now?

A. Naturally they would not. Having that cut off, they would serve themselves.

Q. They would have to finance themselves?

A. That has been the biggest mistake the A. T. & T. Company has made in their centralizing plan. It was a fine thing in 1906, but a poor scheme now.

Q. Suppose we went back to the arrangement you suggest 970 and had no such arrangement as the license contract implies, and the Cleveland Telephone Company should develop something that would be of value down here,-how would we find it out and how could we use it in Houston without this clearing house you speak of?

A. What would they develop?

Q. Anything that might be useful. You say there has nothing

been done by the Staff?

A. If you let the Western Electric Company alone, they would do honest development. They took the natural function of developers away from the Western Electric Company and made them secondraters,-they are dissatisfied, when they are the natural producers. The manufacturer, with all of his facilities behind him, is the natural producer of things. He has everything to work with and is the natural producer of these things. They put an inefficient out-fit in New York trying to accomplish something and ignored the natural producer.

Q. The manufacturer would want to change these things as often

as possible?

A. No, sir, he is the fellow that never wants to change, because their tools are the principal assets of their business.

Q. Wouldn't he want to change so he could sell new things? A. No. sir, he would rather sell one standard piece. 971 Q. Don't the automobile manufacturer change his design

nearly every year?

A. A few little salesmanship points, but they try as near as they

can to keep it as near as they can-Q. (Interrupting.) Does the Hudson speedster look like it did five years ago?

A. No photograph don't look like it did five years ago.

Q. Does the Willys-Knight car look like it did five years ago?

A. No, sir, they have changed the body. Q. Why?

A. To give it a little different look. It is mostly psychology about automobiles. A little paint and powder,—that is all there is to it.

Q. Wouldn't it be psychology about telephones if it was all in the

hands of the manufacturers?

A. No, sir. Do you suppose the Western Electric Company would deliberately change a well designed system for something else?

Q. Why does the Willys-Knight Automobile Company deliberately change?

A. Powerful competition. They don't change the fundamental things.

Q. They change the looks?

A. Yes, sir, but don't change the fundamental things in the car. There is never but one change, and that is the self-starter, 972 and, by the way, the Delco starter was developed in the Kellogg shops.

Q. They change it so that they can sell more automobiles?

A. They change the lines a little bit, get the bodies from somebody else.

Q. To sell more automobiles?

There is not one man out of ten A. To attract foolish people.

that ought to have an automobile.

Q. Did you know that one of the main advantages claimed for the Staff is that by standardizing and controlling the manufacturer, they do those things economically instead of turning the manufacturer loose to exploit the Associated Companies?

A. No, economy don't appear in the calculations anywhere.

Q. Do you know that is one of the things claimed?

A. I have heard Mr. Rhodes say that seven times. He even tried to say he saved \$2.00 a year on a cord.

Q. That isn't true?

A. No, sir, the Western Electric Company is perfectly competent to keep up and keep ahead of your Company's requirements all the way. You rob them of their natural function.

Q. Instead of the dog wagging the tail, the tail ought to wag the

dog?

A. The tail has been wagging the dog a long while, and they are going to pay for it some day.

973 Q. You think we would be better off if we would turn over to the manufacturer-

A. (Interrupting.) Yes, sir, they are chafing under it right now, and they are the people that ought to be doing this developing. I know how these fellows feel. I know all of these fellows.

Q. Your idea is that it would be very much better to turn it over

to the manufacturer?

A. Where it belongs,—yes, sir.

Q. You say nothing has been done that ought to have been done in the telephone field in the last fifteen or twenty years?

A. Nothing signal.

Q. Was the Pupin coil anything?

A. A wonderful thing. That is only used—

Q. (Interrupting.) It is not in use all over the country?

A. No, sir.

- Q. Do you know whether there are any in use in the City of Houston?
 - A. I wouldn't think there would be any need of them.

Q. None at all? A. No, sir, not with a No. 19 cable.

Q. Do you know what they are used for?

A. Yes, sir, I know about them. They claim if they didn't have those coils in the trunk cables they would have to use No. 13 cables to talk 16 miles.

974 Q. Underground? A. Yes, sir.

Q. It is quite a saving? A. What for?

Q. Do you agree with them that that is a saving?

A. Absurd.

Q. You think it is absurd? A. Yes, sir.

Q. Did you ever try to talk 16 miles underground without them? A. I talked 22 miles over No. 22 gauge—between Minneapolis and St. Paul.

Q. What is your longest haul in the Keystone?

A. Something like 22 miles.

Q. Where from?

A. Running from East Chester, and down to Atlantic City?

Q. Does the Keystone have a line to Atlantic City?

A. Yes, sir, but it has been taken away from them. Your people have been busy clipping off the arms and legs of these poorer companies.

Q. You seem to indicate there might be some things developed

about the telephone that has not been developed.

A. No, sir, I claim that the development of the telephone business, compared to the development in flying and photography and wireless telegraphy, is absolutely negligible. We have nothing to

brag about, and we will not live in history. The only thing 975 will be the original Bell transmitter.

Q. How about wireless telephoning?

A. That hasn't got you anywhere yet. I was doing wireless telephoning across the Mississippi River in 1898. Q. Did you ever talk across the Atlantic Ocean?

A. No, sir.

Q. That was done by the General Staff?

A. They didn't say it was,-they never claimed that in the Cleveland case.

Q. Didn't they talk to Hawaii?

A. No, sir, they didn't say so in the testimony. The newspapers said so. You have a wonderful press agent in New York.

Q. The press agent tells the things that are not done?

976

A. Yes, sir. Q. Have you talked over wireless telephones yourself recently?

A. No, sir. One time I had a wireless station. I received the first wireless message ever sent between St. Louis and Chicago. I worked with the inventor in this business.

Q. Do you know what the future of the wireless telephone is?

A. No, sir, I do not.

Q. Do you know whether or not the Southwestern will

ever use wireless telephones?

A. I would be very foolish to say. I have heard men say fifteen years ago that a man would never fly. The human mind has some wonderful attainments in science.

Q. You would not say we would not use it?

A. Some day some jeweler, or somebody, is going to discover some-

977

thing in the business that might be useful, but so far no telephone man has brought it out.

Q. Have you heard anything about putting four or five conversa-

tions over one piece of wire?

A. You ought to put forty or fifty,-you ought to put one hun-That was suggested-it was not suggested by your General You bought that from Forrest. You paid him \$100,000,00 Staff. for it. He told me about that years ago.

Q. Was it worked out so that you could talk?

A. Yes, sir, pretty near it. You fellows are the finest finishers-

Q. (Interrupting.) Taking the thing the other fellow falls down

on and making something out of it?

A. No, sir, he was doing beautifully with it. He got along quite He had a divorce from his wife and ouit working and was worried, and in the meantime needed money and sold it to you folks, and then you went ahead with it.

Q. When did he sell it?

A. Not very long ago. Q. How many years ago?

A. Six, seven or eight, probably,-I don't know. I don't see why any man that has got any electrical conception at all couldn't put forty or a hundred conversations over one line.

Q. Could put one hundred?

A. I don't see any reason why you couldn't put a thousand, if you had machinery enough.

Q. Let's be reasonable,-let's make it one hundred.

- A. Make it forty. You didn't do it,-you bought it. Company has never given birth to anything in that line. They finish Why shouldn't they do something once in a while and earn a dollar?
 - Q. Is it worth anything to the Southwestern Company to have this "bunch" that you speak of?

A. Nothing yet.

Q. None of the instrumentalities we have?

- · A. No, sir, not yet, -nothing that I can't buy from any company in the world.
- Q. Do you know whether you have to pay more for the apparatus than we have to pay?

A. According to the record we pay a good deal less.

Q. The record in this case?
A. We have got a price on all the switch boards you sold.

Q. We have a record here that shows the Western Electric Company sells its apparatus to the Associated Companies cheaper 978 than to the independents.

A. You heard some fellow testify to that, but in practice

you undersell when you get a chance.

Q. That might be so.

A. Yes, sir, you fellows can do anything to suit yourselves,-you

have got it all.

Q. If the independent company had its price very much higher than what we were paying, the Western Electric Company might undersell?

A. The prices are all the same.

Q. Might undersell the independent and still charge more than they charge us?

A. No, sir, you pay a good deal more, although you sav you do

not.

Q. Have you heard anything about development by which they put one conversation over four wires instead of four over one?

A. One conversation over four wires?

Q. Yes.

A. What for?

Q. Have you heard of that? A. What foolishness is that?

Q. That is foolish?

A. I think so.

Q. Do you know whether you heard of that?

A. No, sir, I wouldn't want to hear of anything like that.
Q. Suppose you had four wires that were so fine, Mr. Kelsey, that one wire would out-weigh eight such wires, would

it be cheaper to put it over four wires?

A. That is what you ought to do in the conduct of your business to offset the other extravagance. You ought to do something about this thing, and I am glad to hear you are economizing.

Q. Do you know what has been done in the way of economizing

by using fine wire cables?

A. You made fun of us when we did that, and now you say you have done something new.

Q. Suppose there should be some development-

A. (Interrupting.) By the way, the Western Electric Company developed all these messages over one wire.

Q. Done by the Western Electric?

A. Yes, sir. I was down there in August. You have robbed the producer of its functions.

Q. Do you know the difference between the Western Electric and the General Staff?

A. Yes, sir, I can tell by looking at them.

Q. Really everything that has been done that is worth while has been done by the Western Electric Company?

A. There hasn't been anything signal or meritorious done in

twenty-five years, except the automatic.

Q. Did you know that the General Staff has spent something like twelve or fifteen million dollars in development of the semi-

980 automatic switch board?

A. Yes, sir; the first four million dollars they spent was for the automatic company and they gave \$300,000.00 to our little concern for our rights, and gave the Stromberg \$350,000.00, and the semi-automatic \$350,000.00, and by that time they started to go into the automatic business. Every patent was gobbled up. They do spend money down there, they are the finest spenders I ever knew. We developed the automatic system, the Kellogg Company, but never spent that money.

Q. That was done by the General Staff?
A. Yes, sir, after they bought the rights.

Q. After they get the patents of these other people and the shop rights, they can go ahead and make the automatic switch boards?

A. That is why they bought the rights.

Q. If they sell \$100,000,000.00 worth of switch boards around over the country, they could very easily add 10% or 12% on each switch board and soon get the \$12,000,000.00 back?

A. They get more than 12%.

Q. They could add 50% and the fellow buying it wouldn't know the difference?

A. Yes, sir.

- Q. He would only know he paid what he thought was a high price?
- A. This invention was by a jeweler, and not by a telephone man at all. He made it possible. It is all bunk about you folks 981 coming in here with a new, novel system. That jeweler was inspired, and he wasn't a telephone man.

Q. He just had the inspiration?

A. He had the hunch. He worked on it for years. Mr. Harris

came along and furnished the money.

- Q. Suppose the Company in Houston were a separate company, how would it get the benefit of the use of these automatic switch boards?
- A. Slip in and tell the Kellogg Company: "Here, build us one and we will cancel our Western Electric business"-and they would get it quick.

Q. As cheap?

A. And cheaper. Q. Save money by it?

A. You just let the Stromberg-Carlton Company and Kellogg go to these fellows—that is another silly thing you are going to pay for,—having your eggs in one big Electric Company basket.

Q. Turn the patents loose?

A. They are loose.

Q. Let the Southwestern Company pay royalties to everybody?
A. There isn't a cent of royalty paid in the telephone business.

Q. On any patent?

A. Not a cent. Q. Did you ever see the Franklin Automobile?

A. Yes, sir.

982

Q. It is an air-cooled car?A. Yes, sir.Q. They have got a patent on it?

A. They seem to have.

Q. Also you have seen the Stanley steamer?

A. Yes, sir.

Q. It is patented?

A. Yes, sir.
Q. It is patented?

A. Yes. sir.

Q. And you say there never was a cent royalties paid on patents in the telephone business?

A. I am talking about today.

Q. Hasn't the Western Electric Company or the General Staff had to pay for the patents they got on the automatic from other people?

A. Yes, sir,

Q. Hasn't it had to pay for other patents it got?

A. In order to get it, but if this Company was to buy in the open market they could go to the Kellogg Company and buy these things.

Q. You testified here before that you knew of switch boards that had to be torn out because of something covered by patents? 983 A. Yes, sir, in St. Louis. You folks at that time had a multiple patent-in 1902, and a year later it ran-

Q. (Interrupting.) A year too soon you build one and had to

tear it out?

A. We got around that.

Q. How?

A. By removing the multiple before that particular operator. She had to use her answering jacks. Getting around it was so simple that it was silly.

Q. The Southwestern Company never has to do anything like

that?

A. No, sir, that didn't cost even the Kinloch a cent.

Q. You went ahead and used the Bell patent without its costing you a cent?

A. It didn't cost us anything. We had more valuable patents

than they did.

Q. If, however, Mr. Kelsey, the General Staff was wiped out and

each local staff undertook to do its own staff-

A. (Interrupting.) Let the Western Electric Company do it in conjunction with these boys. They are thinking and studying right along.

Q. Would the Western Electric Company be able to tell us how to

handle traffic matters?

A. What do they care about traffic matters? What-

Q. (Interrupting.) What advantage would there be in taking it away from the General Staff and transferring it to 984 the Western Electric Company?

A. The proper development of your apparatus.

Q. Doesn't the Western Electric Company get the full benefit of

the General Staff?

A. They give birth to all these things. All these machines and things are made there. One is an artificial producer, a sort of incubator, and the other is the natural baby.

Q. Doesn't the Western Electric Company have the benefit of

their own engineers?

A. That they pay for.
Q. The benefit of their own engineers? A. They have got some good engineers.

Q. If they think of something better than the General Staff, then they tell them about it?

A. Yes, sir, and the General Staff grabs it and calls it their own.

Q. So that anything the Western Electric Company is able to evolve is evolved even at the present time?

A. They are working right along, yes, sir. They are held back

and not given full swing,

Q. The Western Electric Company has the General Staff-

A. (Interrupting.) If the General Staff was turned over to them they wouldn't need them. They would let them out in the open market, hunting for a job in some other line of work. They have got so many engineers now, there are so many they never miss anybody down there.

Q. How many have they got?

A. Twenty-six or twenty-seven thousand employees.

Q. All of them engineers?

A. No, sir, about five hundred engineers.

Q. The Western Electric Company has got about five hundred? A. Yes, sir. Q. How many has the General Staff got?

A. About the same.

Q. Standing on each others' feet?

A. Yes, sir, and producing nothing, interfering with one another.

Q. Eating out of the trough? A. Looking for more pay.

Q. And your idea is that they are a bunch of fellows that are,that would be fired except Mr. Vail is to- tender hearted?

A. Too tender hearted to fire his own stenographer.

Q. Wouldn't even fire his own stenographer?
A. Somebody else took her.

Q. Suppose that some of these services were performed by these gentlemen present here that you have complimented so highly, wouldn't there be a duplication of services throughout the United States?

A. Yes, sir.

Q. Quite a duplication?

A. Yes, sir, they are all giving service. I can prove that 986 I was the first man to use a repeating coil.

Q. What is a repeating coil?

A. Transformer.

Q. What is it made out of?

A. Just plain wire and copper,-iron wire and copper.

Q. Is that the same as the Pupin coil?

A. It has the same characteristics. Q. What is the Pupin coil made out of?

A. Laminated wire, with copper connections.

Q. Do you know that they are made different now?

A. Yes, sir.

Q. They are made very much cheaper now?

A. Yes, sir.

Q. And we get the benefit of it?

A. You buy it of the Western Electric Company outright. It is the natural evolution of the manufacturer; they are the ones that should have done it. The most obvious thing was to reduce the cost, because when they started out they had enough iron in them to sink a ship.

Q. What did they used to cost?

A. About \$15.00, and now they are down to three or four dollars.

Q. We get the benefit of the amount of reduction?

A. That is true, yes, sir. The Western Electric Company would have given you that.

987 Q. If the Western Electric Company was selling us something for \$15.00, would it have been to their interest to sell it to us at \$3.00?

A. Yes, sir, they made just as much selling at \$4.00 as they would have at \$13.00.

Q. Would they give us the benefit of all the savings?

A. Yes, sir, they give you that price, plus cost, in every case.

Q. As a manufacturer you are making something in general use that you get \$15,00 for and you find a way of making it for \$3.00, so you could sell it at \$3.00,—do you immediately give your customers the benefit of that?

A. Yes, sir; the whole theory of this business is to popularize your price,—make people buy these things. What the traffic will bear, the price that will move these things enough to keep your machinery busy.

Q. The traffic will bear about twice \$3.00?

A. No, sir, these coils cost so much; therefore, by reducing the cost we give our customers the benefit of the savings.

Q. You would give them the benefit of all the savings?

A. Yes, sir.

Q. Anything that could be reduced and sold for \$3.00 you would sell for \$3.00?

A. Yes, sir.

Q. The temptation to charge a little more wouldn't cause

988 you to charge more?

A. No, sir, the charge is all based on cost plus. It is not a wild, disorderly thing, this charge proposition; it is well organized. We have cost cards on everything that we make. We have a certain price that we add to everything,—a certain percentage.

Q. Of course, it is all right for you to theorize-

A. (Interrupting.) I am not theorizing. It is the most practical thing in the world.

Q. It is all right for you to theorize about eliminating the 41/2% payment—

A. (Interrupting.) I am not eliminating it.

Q. We have to pay it?

A. You pay yourself,—it is yours, it is your own concern.

Q. The Southwestern Telegraph & Telephone Company has to pay it?

A. To whom?

Q. The American Telephone Company.

A. Who owns the Company?

Q. The American Telephone Company owns the majority of the stock.

A. All of it, except the "dummy" shares that are put here to comply with the State law.

Q. It might sell all the stock to somebody?

A. No. sir.

Q. Couldn't it sell the stock?

A. In Cleveland I think the boys had ten shares out of 989 a hundred and fifty thousand. Q. They could sell the Southwestern stock?

A. No, sir.

Q. Wouldn't you buy any of it?

A. No, sir, not under the present circumstances.

Q. Not a dime? A. Yes, sir.

Q. Suppose that \$10,000.00 worth of it was for sale,-would you buy it?

A. I couldn't just now. Q. If you had the money?

A. At what price?

Q. What price would you give for it?

A. Par. Q. Would you give par?

A. Yes, sir, eliminating all these foolish, long-distance contracts which you have with the A. T. & T., and let an honest dollar be an honest dollar, and it would be a good property.

Q. And if we had to have some more money you would have to

buy some more stock?

A. Yes, sir. It is a mighty poor Company that don't make its own stockholders put up its additional money. Our Kellogg stock,-we never had any trouble selling stock. Our own stockholders took the additional stock as fast as we could give it to them.

Q. In the telephone business isn't the real reason that in-990 dependent companies have failed so largely in this country is because of the fact that they didn't have money enough to

A. No, sir, the reason they failed, they lacked faith in the first place. A good many went into it to make money. They thought the manufacturer's profits—the main reason was your warfare through the banks, your warfare through the banks against the se-curities. The most deadly campaign ever waged.

Q. Who waged it?

A. The A. T. & T. Company.
Q. The A. T. & T. Company?
A. Yes, sir,—advertisied in the magazines, and even the bank examiners of the different States would come in and find the bank with some independent telephone bonds and he would say: "Get them out; the next time I come I don't want to see them."

Q. Why?

A. He had been told.

Q. Had been told by whom?

A. By the propaganda, by the advertising, that this independent business was a "fly-by-night" affair.

Q. If it had been really on a sound basis could anybody have

told anybody that and made them believe it?

A. It didn't make any difference, because so many of them are on a sound basis. The price of the independent stocks are a good deal higher than you now are. 991 Q. State bank examiners?

A. Yes, sir, State bank examiners and National bank examiners, and all of them. The State bank examiners objected to them in

Q. Objected to having independent stocks?

A. Yes, sir, and the last bank examiner didn't think much of those A. T. & T. 6's, either.

Q. How many different independent companies have been organized in the United States?

A. About nine thousand,-what you might call companies, and they are still running. Only in the larger territories you have eliminated them.

Q. Nine thousand companies?

A. Yes, sir; and three thousand are very successful independent telephone companies.

Q. Are they growing larger or smaller? A. Every one of them are growing larger.

Q. Any one of them bigger than the Bell Telephone Company was forty years ago?

A. The Johnstown Telephone Company has about 10,000 telepones, and their stock is worth \$260.00 a share. Ft. Wayne has 14,000 telephones and it is worth \$400.00 a share, and so many of them you can't buy stock in at all. 992

Q. They are all paying? A. Within their limits.

Q. Why are they limited? A. They have their territory that they don't care to get beyond,they might step on your toes or some neighbor's toes. agreement among ourselves to keep out of the territory. Another wonderful thing you did was to pick out the best spots and buy them

Q. And keep them from growing?

A. Yes, sir.

Q. The question of money hasn't entered into it at all?

A. No, sir; most of these companies could carry themselves and their credit is wonderful. I sold, in my little time with Kellogg, \$25,000,000.00 worth of goods, and the total loss was \$18,000.00.

A. Yes, sir, they pay better than you do.

Q. How long would it have taken the three thousand companies you are talking about to talk across the United States?

A. They don't talk across. Q. They don't connect up?

A. No, sir.

Q. They never would have?
A. They can talk if they want to. That is such an absurd commercial necessity that they don't use it.

Q. Does the city get any benefit of that?

A. I doubt if they have one call a month. On account of 993 the shortness of the day, the difference in time. When a man in San Francisco is going to his lunch, a man in New York is shutting up his office. It would be all right to have these long lines north and south.

Q. What is the difference in time in San Francisco and New York?

A. At 2.00 o'clock it is 5.00 o'clock. I was talking at 2.00 o'clock when he was going home at 5.00 o'clock.

Q. If a person had a relative in San Francisco that was in serious

danger-

A. (Interrupting.) He would use a telegram.

Q. He could use the telephone?

A. Yes, sir. That thing is another economic failure, another scientific toy.

Q. It is worth something to be able to talk to St. Louis from here? A. They are paying for it. They pay \$441,000.00 to talk to some-

body.

Q. It is worth something?
A. Yes, sir.
Q. Would it have been possible without the development of the General Staff?

A. The General Staff had nothing to do with that. Q. They didn't develop that at all?

A. No, sir, we developed the long line. We could talk to 994 Dickinson, in North Dakota, to Minneapolis, -400 miles, with an ordinary instrument.

Q. It would be better, in your opinion, to cut the telephone lines

in the United States all to pieces-

A. (Interrupting.) No. sir.

Q. And have local companies in each town?

A. It would do just as well. Q. It would do as well?

A. Yes, sir.

Q. And destroy the General Staff?

A. I don't care anything about them. They are tender hearted fellows and I wouldn't want them destroyed.

Q. I mean fire them.

A. I would hate to see them have to hunt another job and get the same salary that they are getting now.

(By Mr. Frank:)

Q. Mr. Kelsey, I remember one remark you made yesterday that patents never were an asset. You didn't mean that literally, did you?

A. Yes, sir, they never were an asset. They cost more to main-

tain than they ever sold for.

Q. The Automatic Telephone Company found their's an asset?

A. They spent more than \$4,000,000.00 maintaining their right.

Q. Didn't they make \$4,000,000.00 off the Bell Company?

A. No, sir. At the time we sold our patent for \$300,000.00, our total expenses were \$800,000.00 and I am telling you frankly that no business on earth ever made money on patent.

Q. And another criticism was we have too many records,

just what records have we?

A. You are over-analyzing yourself. You know yourself you have got office after office for old books and records and accounts that you don't know what to do with. It is a fine thing, but an ex-

Q. They are maintained out of the Inter-state Commerce Commission rules?

A. No, sir, you do a lot of analyzing unnecessarily.
Q. You don't think it is right?

A. It is a fine thing. You analyze your own business ver- nicely and you know within a month whether you are getting behind. Every time you lose a dollar it is out there in plain ink with a notice to the General Manager that he is behind. Q. It is desirable?

A. No. sir.

Q. I want to ask you something about the bugs that started to biting these cables.

A. Yes, sir.

Q. What do you know about that?

A. When Mr. — he is dead now,—he came to the Exposition at the World's Fair in 1903 and brought along a cable that had been punctured with the bugs, and we talked bugs for two or three 996 days and that is the first time we ever heard of it.

Q. Did he have a way of preventing the bugs biting the

cable? A. No, sir, not at that time.

Q. Did anybody discover a way of combating the bugs?

A. Later on we found it in California and the Independent Companies out there when they found a hole they repaired it.

Q. Is that the only way there is?

A. I am not an expert on bug-ology. Q. We have found a way of combating it.

A. It would be wonderful because you must have about three bugs in the course of a year in the United States.

Q. It is worth something?

A. That is making a mountain out of a mole-hill.

Q. You don't think it worth anything?

A. It is a nice thing to know how to do anything. Q. You haven't heard how to combat them?

A. I am not interested.

Q. Did you know these bugs stood on their hind legs and-A. (Interrupting.) Mr. Hester told us all about the bugs.

come twelve thousand miles to tell it, and that was new.

Q. You told us something about a cord somebody used in 1899. A. Your old tinsel cord was used in 1898 and you afterwards deserted that for the steel cord.

997 Q. The one we are using now?

A. No, sir, we all got to using the steel cord and we found out the resistance was around 20 or 30 and went back to something which had more cunductivity which was tinsel, brass and copper combined.

Q. The new cord was tested in 1913? A. Yes, sir. The Kellery C. A. Yes, sir. The Kellogg Company is making a cord that you couldn't tell from yours. The Kellogg Company has shopright on it because when you bought their shopright you gave them shopright on these things as well. You don't know it probably but the Kellogg Company can make anything the Western Electric can.

Q. I am asking about the cord. The evidence in the case shows

that the cord has been quite a saving.

The cord costs about sixty cents and you use one a A. Yes, sir.

If you can show me that that is a saving-

Q. (Interrupting.) Do you know how many we used before that?

A. I have more to do then study how long a cord lasts.

Q. How many did they use in Houston?

A. A cord ought to last twelve months on a board. And I know they lasted twenty-four months on the Duluth board.

Q. How long did they last in Houston?

A. A year, easily.

Q. Have you examined the testimony in this case to see what the saving was here on the new kind of cord?

A. Do you know we take the cord you folks throw away and buy them by the pound and give them a bath in gaso-998 line or naphtha and sell them absolutely new? You can't find anything wrong with them.

Q. They are so good that you can continue to use them?A. Yes, sir, for years.Q. You think that is no advantage at all?

A. No, sir. Your experts at Cleveland and Columbus tried to show a saving of \$2.00 and he made a rank failure.

Q. Who made the Tupin coil before the Civil War?

A. Professor Heverside-

Q. (Interrupting.) When did you find that out?

When I was studying Electrical Engineering in 1897.

Q. Before Professor Heverside?

A. No, sir. It come to him one day, I knew all these college professors and we talked these things over.

Q. You knew it before he did?

A. No, sir.

Q. Did you have the idea before he got it?

A. Dr. Cornell (?)-

Q. Did you know anything about it before he did?

A. No. sir. We were all college professors and we talked about these things.

Q. Professor Everside had his idea tested about twenty years ago. A. I imagine he, at that time, had a little more financial means

than most college professors have. He saw a little chance 999 of getting in.

Q. The Bell Telephone Company was foolish enough to pay him for his patent.

A. \$100,000.00.

Q. Bought it? A. Yes, sir.

Q. Do you know what they got?

A. They didn't get anything but an idea and a few little models. I saw them. I was present almost at the birth of this little baby you are talking about.

Q. They took the idea and-

- A. (Interrupting.) No, sir, Harvard University took it up and Dr. Cornell and his assistant-
 - Q. (Interrupting.) Jewett? A. He is an over-rated man. Q. A little over-rated fellow?

A. Yes, sir, and you can tell him so for me.

Q. I don't care to tell him.

- A. I am talking about Dr. Cornell's assistant. We were at the World's Fair together and we discussed it very much in detail, in 1904.
 - Q. Was he a Bell man?

A. No. sir.

Q. The general staff didn't develop that?

A. I think they took over Cornell's assistant. I can't recall his name.

1000 Q. It makes no difference. A. They have got him.

Q. Every time one of these fellows does anything that is real scientific, the Bell Company goes ahead and hires him?

A. They did that in the case of Forrest and Professor What's his-

name.

Q. Jewett?

A. He never discovered anything.

Q. He has done something.

- A. I am well acquainted with Jewett and all these fellows. know the faculty of all the Electrical Engineering Schools.
- Testimony in Support of Assignment of Error No. 4, Re-1001 lating to Reserve for Depreciation.
- 1002 F. M. Hoag, a witness for plaintiff, was sworn and testified as follows:

Direct examination.

(Questions by Mr. J. D. Frank:)

My name is F. M. Hoag, and I live in Dallas.

I am the Plant Supervisor for the Southwestern Telegraph and Telephone Company in Texas. I have been engaged in the telephone business twenty-one years. I entered the employ of the Bell Telephone Company in Cleveland, Ohio, in 1898, as a cable helper. I became a cable splicer, later the foreman of the Cable Department, and later General Foreman for the Cleveland Telephone Company. I learned to be a Cable Splicer from the experience which I obtained as a Cable Splicer Helper; I became a Cable foreman and had charge of a gang of about 30 men, doing underground cable, aerial cable, construction work of all kinds and cable maintenance work. The kind of cable was lead covered paper insulated telephone cables, carrying insulated wires.

As General Foreman for the Cleveland Telephone Company, I had charge of all the outside construction work and worked a force of from 100 to 350 men. In 1902 I came to Texas and went to work for the Chief Engineer of the Southwestern Telegraph

1003 and Telephone Company at Dallas, as an inspector in the Engineering Department. As an inspector, I assisted in doing field work and other work incident to the preparation of plans and estimates covering telephone construction work of all kinds.

I later became a Consulting Engineer for the Southwestern Telephone & Telegraph Company, and after about six years was made Assistant Engineer. Prior to the time I was made Assistant Engi-

neer I was a Construction Engineer.

In my position as a Construction Engineer, I had a force of about 10 engineers; did the field work incident to the preparation of the plans, prepared estimates covering all kinds of outside telephone construction work throughout the State, that is, throughout the State of Texas, and also did a great deal of work in Arkansas.

As Assistant Engineer, I supervised a force of engineers engaged

in that kind of work.

In 1913 I was made Division Plant Superintendent for the Northeast Texas Division of the Company with headquarters in Dallas, having charge of all of the construction and maintenance of the telephone company's property in the Northeastern portion of the State, and had an average of form five to eight hundred men working for me in that particular section of the State. That embraced the northeastern section of the State, from a point South at about

Mexia and Teague, from a point on the West from about 1004 Gainesville, and East to the Louisiana State Line, and North

to the Red River. There were 75 telephone exchanges, including the telephone exchange in Dallas, with approximately 60,000 subscribers connected. As Division Plant Superintendent, I had charge of all the maintenance of that property and also had charge of the engineering work incident to the new construction, which we did each year.

The value of the property which was constructed under my supervision during that period of time in that particular territory was approximately one half million dollars. It was all kinds of construction work,—new work, replacements, enlargements and addi-

tions.

All of our work, which costs in excess of \$300.00 is handled under approved estimates. We first prepared our plans, make our studies;

prepare our plans and then prepare an estimate of the cost of the work which we desire to do. That estimate has to be approved by our management before the work is undertaken. It is first approved by me,-it is prepared under my supervision and I make the estimate; I then present that to some higher official for his approval and when it is approved, the work is authorized and we order the material and proceed with the work. These estimates allow for a variation of 10% in the cost. We are not permitted to exceed the estimated cost by over 10% without asking for additional appropriations, and ordinarily, of course, we would do the work within the appropriation as covered by the original estimate. As

Division Superintendent in Dallas for three years I had charge, in addition to the engineering and construction and the maintenance of the property, I also had charge of all the ac-I had a Division Accountant and we had to make final reports upon the completion of all estimated work and, of course,

had to analyze the cost very carefully.

Q. You stated that you were allowed a variation of 10%, that is, whenever you made an estimate on a particular piece of work, that you were supposed to come within 10% of your estimate in actually doing that work?

A. And would usually do so, of course.

The actual cost of doing the work usually came out within 10% of what we had estimated the cost would be. Work handled under normal conditions, we would invariably come out within our esti-If we had storms, or floods, or something of that sort, then

we might spend more money than we estimated.

I stated that about seven and a half million dollars worth of work was done under my supervision during that length of time. sent to San Antonio in 1907 as Division Superintendent of the Southwest Texas Division, and that embraces the southwestern portion of the State, extends on down to the Mexican Border and as far North as Bartlett, just North of Austin and comes as far East on the South-

ern Pacific, as Victoria. There are 76 exchanges in that 1003 Division with approximately 46,000 subscribers, serving approximately 46,000 telephone subscribers, including the

City of San Antonio,

I had charge of all the repairs, maintenance, new construction work, and so forth in that Division, just as I had in the Northeast Texas Division and in addition, I represented the Southwestern Telephone and Telegraph Company with the Southern Department. Army Headquarters officials. By that I mean the headquarters of the Southern Department of the Army are at San Antonio and during the Army activities we built a considerable amount of telephone plant in the State of Texas to serve the cantonments, the Av-ation Fields, Balloon Schools, etc., and I handled all of the negotiations with the Signal Corps, the Southern Department Signal Officers at San Antonio for that work, looked after the payment of our bills, went over very carefully with the Army Officers all of the proposed expenditures as to cost and supervised that work generally for the telephone company. In other words, I made an estimate of what

it would cost to put on a telephone exchange at one of those cantonments down there for the United States Government. Went over the figures with Army officers and then handled the payment of those bills after the work was actually done. Got their a-proval of the expenditures before the work was actually started, then handled the work and later assisted in the collection of the money. We had to account to the Government for how much money was expended down to the last dime. They checked all of those matters over carefully with me; they checked all items of material and all costs very carefully.

1007 We did a very satisfactory job with the Army and when I turned that work loose a few months ago, I think the Army only owed us \$5,000.00 out of many hundreds of thousands of dollars

which we spent for them.

In the preparation of those estimates, we necessarily have to be very careful and make them accurate in that the Army considered that when we made an estimate of what the work would cost, that when we had entered into a contract with them to do the work for that amount of money and the work was invariably done at our estimated cost.

I had charge of all that construction work down there and that was

done under my supervision.

After the Armistice was signed, I was moved back to Dallas as Plant Supervisor for the State of Texas as a whole, in which position my duties have been rather general. That is the position I occupy at the present time. I was sent out to the Oil Fields in December, 1918, and made a careful general survey of the telephone needs in the Oil Fields, also appraised a number of telephone properties and later purchased those properties for the Southwestern Telegraph and Telephone Company. Also, decided as to what additional toll lines were required in the oil fields and what new exchange work was needed at the exchanges that were purchased. In that section, I appraised some ten properties and purchased something over \$300,-000.00 worth of small properties.

In all I have something like twenty-one years' experience in the telephone business, during which period of time, I have made estimates as to the cost of property and have actually constructed the property and have had occasion to check my appraisals

with the actual cost afterwards.

1009 Direct examination.

(Questions by Mr. J. D. Frank):

Q. Take up one or two items under station equipment, Mr. Hoag,

and explain that.

A. Item 1, under Station Equipment.—Subscribers' Station apparatus, because its location at subscribers' premises and on account of the number of disconnections, removals and changes in location, is subject to a great deal of injury.

Q. Are you constantly making those renewals—removals and

changes for your telephone subscribers in Houston?

A. Yes, sir.

Q. Causes a great deal of wear and tear on the equipment, does it? A. Yes, sir. Item No. 2: Although the apparatus is repaired as far as practicable, this process of repairing cannot be continued long and the sets must eventually be junked.

Q. It is necessary to junk a certain amount of those instruments each year when you have had sets in operation a great many years?

A. Yes, sir, necessary to junk a large number each year.

Q. Take the last item under Station Equipment.

A. No. 6: Sub-station sets and private branch exchange switchboards are sometimes destroyed by fire.

Q. Explain that a little further.

A. A considerable number of substation sets and private switchboards are destroyed by fire in the course of a year. Even where the fire is not large, the sets are so damaged by water that they have to be junked.

Q. Sometimes a residence or business house completely burns up, and you would have one or more telephones destroyed in there if it

happened to be a subscriber?

A. Yes, sir, that frequently happens.

The Master: Do you carry your own insurance on those things? Mr. Hoag: The reserve for replacements in our insurance to protect the property.

The Master: You don't deal direct with a regular insurance com-

pany in your business?

Mr. Hoag: No, sir, this reserve does that. That, in effect, is what it is, it protects the property.

Q. Take up one or two items under Buildings.

A. Item 1, under Buildings. "Inadequacy" is the factor which is the largest effect. That has been shown in the exhibit subhas the largest effect. mitted covering life of central office buildings in Texas.

Q. And you have had that occur here in Houston several times,your business has outgrown the building in which the equipment

was located?

One good example is the original Taylor Central Office building, which was originally at Center and Taylor Streets. A No. 9 switchboard was installed and we outgrew the switchboard and the building and had to build a new building at Harvard and 16th in Houston Heights.

Q. Take the last two items on that and explain that.

A. Item 7: As Improvements in fire prevention construction are made, considerable reconstruction work is required to keep the building up to the most modern standards; for example, wire gladd windows, fire cutoffs, metal doors and automatic shutters. explain that by saying that we have men who make an inspection once a year of the central office buildings, and they usually recommend what the conditions warrant, of course, in changes of the buildings which make them nearer fire-proof. Those changes would be such changes as have developed during the year, the preceding year.

Q. Take up the last item; Item No. 8.

A. As regards salvage value. It must be remembered that telephone buildings are of special design and not only may the floor plan be unsuitable for other uses, but the buildings are special as regards strength of floors, height of stories, heating, plumbing, high basement, etc.

Q. Is that due to the fact that you must make provision for special

equipment which goes in the buildings?

A. Yes, sir. A good example of that is in the strength of the the floors of the building. If I am not mistaken the ordinary building is constructed to carry a strain of some 80 to 100 pounds per square

foot of floor space, whereas our buildings have to be constructed to carry approximately 300 pounds per square foot of floor space to care for the apparatus and equipment that

is in the buildings.

Q. You have spoken of replacements made necessary by public requirements. Have you prepared an exhibit which gives some examples of these changes in Houston?

A. Yes, sir.

Mr. J. D. Frank: We offer that exhibit in evidence as Plaintiff's Exhibit No. 28.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 28, as requested.)

Q. Mr. Hoag, in just a few words, and without taking up all these

pages, tell us what is shown by this exhibit.

A. This exhibit is examples of replacements made necessary by public requirement in the Houston Exchange. The exhibit is not complete and is only illustrative.

Q. That is for what period, what length of time did you cover,

Mr. Hoag.

A. We picked out many things that had happened between 1911

and 1919.

1013

Q. Is this supposed to cover all those changes, or have you merely prepared this as examples of changes which have been made due to that fact?

A. This is merely prepared as examples of changes due to that fact and it was prepared with reference to the underground conduit

particularly.

Q. Al- right. Just mention one item and tell us what the

last page is.

A. The first page recites the work necessary in connection with the Main and Milam Street vridges over Buffalo Bayou. To care for that work made necessary on account of that bridge construction an expenditure of approximately \$21,000. was incurred, and the cost of the original plant which was displaced amounted to about \$20,000.00. The approximate salvage of that original plant was \$8,400.00 leaving in that particular case a charge against reserve for replacements of approximately \$12,000.

Q. All right. Now take up the last page and explain what total

amounts have been charged to your reserve for replacements due to

the changes which are set out as examples in this exhibit.

A. The total plant displaced, as covered by this exhibit, amounts to \$41.525. That had a salvage value of \$16,859, leaving the amount chargeable against reserve for replacements of approximately \$25,000.00 a little less than \$25,000.

Mr. J. D. Frank: I believe that is all on that,

Cross examination.

(Questions by Mr. Howard:)

Q. Mr. Hoag, did you prepare this exhibit No. 28?

A. Did I personally prepare it?

Q. Yes.

A. It was an exhibit which was in part prepared at the time 1014 this case-

Q. (Interrupting.) What is it prepared for?

A. To show examples of replacements due to public requirements in Houston.

Q. It has nothing to do with your reproduction theory at all?

A. It is in connection with the reserve for replacements. Q. In other words, all this vast detail has been gone into and offered here merely to fortify, and is cumulative of these other things that you say justify you in setting aside 6.33 per cent for

A. It is in support of the reserve for replacements.

Q. You would have adopted the same rate of 6.33 if you were

valuing the Beaumont plant and putting in a rate there?

A. No, sir, I am not sure what the rate would be in Beaumont, although conditions are very similar in Beaumont to what they are in Houston. A better example might be to say Amarillo.

Q. Mr. Hoag, in your set-up of this depreciation, 6.33 per cent, I notice that you have set up land as zero. The land has appreciated, hasn't it?

A. Has appreciated?

Q. Yes, sir. A. Yes, sir.

Q. You didn't set off, or allow for the appreciation of the land, as against the depreciation of the other parts of the property, in arriving at a fund that would keep this property—the capital intact?

A. Land not having depreciated, it was not necessary to set

1015 aside any fund.

Q. In appreciating it tended to counter-balance the depreciation of the other parts of the plant? A. No, sir.

Q. You have got a plant here consisting of real estate and equipment, part is appreciating and the other part is depreciating. is a counter-balancing effect going on all the time?

A. No, sir, the reserve for replacements amounting to 6.334 per

cent is a fund-

Q. (Interrupting.) I under—it is a fund. I didn't ask what that was, I understand what it is. It is a fund set aside to take care of and keep this plant up to the value of the original investment. Then, I ask you this, just as a matter of valuation: If you have a plant here and there is no fund or anything of the kind provided for—to reduce the thing down so you will understand it perhaps a little better, take the example of a residence, the lot is worth five thousand dollars and you put a residence on it worth ten thousand dollars. Then time goes on and the lot appreciate in value until it is worth ten thousand dollars and the improvements depreciate until they are worth only five thousand dollars. Then you have a counter-balancing effect there, do you not, and at the end of the five years, say, the property is worth just what it was when you started?

A. But you cannot spend that appreciation which has been realized to care for the depreciation of this property, and that is what this

fund is for.

Q. Aren't you mistaken about that? This fund is to take 1016 care of replacements, to keep the plant in working order, you pay that out of your fund?

A. Only in part.

Q. At the end of your term, at the end of the life of the plant, when you find you have got a plant that is worn out, so far as the equipment is concerned, but you find the real estate has advanced, one has worn out and the other has appreciated in value, the amount necessary to make your investment whole would be the difference between the appreciation on the real estate and the deterioration of the plant, would it?

A. No, sir, this fund is spent from day to day. The appreciation

of the property cannot be spent in that it is not realized.

Q. I understand, but you have it in value at the end of the life of the utility.

A. There is no end to it.

Q. That is the theory that it is set up on, taking care of the investment so that at the end of the term of the life of the plant, that it will not have been worn out in the public service without having something to recompense the investor.

A. The fund is to protect the property. Q. To protect the investor, isn't it?

A. It is to protect the subscribers and customers.

Q. But at some time it will come to a point where it is worn out and its life is at an end, and then comes the accounting—

A. (Interrupting.) There is no end to it.

Q. If you take that tehory of it——

Mr. Frank: Let him explain it.
Mr. Howard: He says there is no end to it. If he says that, I am willing to discontinue the inquiry along that line with

him.

Q. You have set up here, I believe, 300 different cities, in which you have shown depreciation of your central office equipment.

A. That is in switchboards, yes, sir.

Q. Mr. Hoag, you don't claim that these figures here show the service of these respective switchboards, for instance, in Column 4, you don't claim that they are the correct figures upon which to base the depreciation of those particular items, do you?

A. They are the correct figures, yes, sir, except to this extent,

that salvage does not enter into it.

Q. And salvage does enter into it?

Yes, sir, which I explained yesterday,

Q. But you didn't undertake to compute the salvage with any such percentage accuracy that you could add it to these years and get a correct depreciation computation?

A. It was not possible to determine the realized salvage on each

of these switchboards

Q. Then, as a matter of fact, this set-up you have here is misleading and doesn't indicate anything. It just simply means that at certain times, for certain purposes you have taken out switchboards and put it into your supply account. That is what it means,

A. No, sir, it means exactly what this exhibit shows, that

these boards have been removed for various reasons.

Q. From this particular service, but it doesn't indicate in any way that these particular things had been worn out?

A. Many of them were worn out, yes, sir.

Q. But these figures here do not indicate that they have worn

out, do they?

A. This exhibit does not show what became of the particular items of material, the particular switchboards. Some of them, were worn out,-some were junked, and some were rebuilt and reused. In some cases junk value was realized and in other cases the boards were in such condition that greater salvage was realized in that they could be re-used.

Q. So we come back to the first proposition that these figures you set up as indicating the life of these particular switchboards, does not indicate it, and does not form any basis upon which you can

compute it?

A. It doesn't show what was realized in a way of salvage, no,

sir, it don't show that.

Q. And until you can realize that, these figures do not even approach accuracy?

These figures are accurate as shown.

Q. Tables and statement as to what you have done with certain switchboards in certain cities, but we are talking about figures, the rate of depreciation upon these particular switchboards, and because you took the switchboards out of the central office equipment here and put it in your supply account, when you have had it in use three years, by setting down three years you don't get anywhere in

determining the life of that switchboard?

1019 A. That matter may be explained by saying that this exhibit shows an annual life of 6.83 per cent, and in figuring our depreciation reserve we have figured on a life of ten years. Now, the difference between the life of that board, as shown, and the life as figured, at ten years, would just about account for the

Q. That is not the thing we are trying to get at. We are trying to get at the rate of depreciation. Why put in these figures at all if you know from actual experience the average life of switchboards to be ten years? Why introduce a set-up here that indicates the life only six years?

A. This is the average life of switchboards-

Q. (Interrupting.) This average life you have got by this computation here, is that the average life of switchboards?

A. Of those boards, in the places where they were installed, yes,

sir

Q. You mean to say, rather, that it is the average time you used them in service in those places?

A. Yes, sir, and it shows the reason form their removal.
Q. But when you took them out you didn't junk them?

A. Many of them were junked, and many were salvaged and reused.

Q. And that you haven't undertaken to compute?
A. No, sir, but I just explained that this shows an average life of 8.83 years, whereas we are figuring in our depreciation reserve an average life of 10 years, a difference of something over three vears.

Q. And then were these figures set up for the purpose of having it appear that although the average life is six years, that 1020 this company in magnanimity had included a life of ten

years for the life of these particular articles?

A. No, sir, not for any such purpose as that.

Q. What are they set up for?

A. To show the reasons why switchboards are replaced. the particular thing they were introduced for, and next they were intended to show the average years of life that a switchboard was installed, was in place, and it does show those two things.

Mr. Duls: That exhibit represents the experience of the Company?
A. Yes, sir.
Q. Turn to your San Antonio set-up there, will you? I notice San Antonio Common Battery was taken out after it had been in service ten years. What did you do with that switchboard?

A. That switchboard was junked. It was an old panel, 5,000 line capacity, No. 1 Common Battery Switchboard, taken out of the old

San Antonio Building on Travis Street.

Q. Have you set up the one in this statement here that you transferred from San Antonio and set up in the Taylor Exchange in Houston, and an inventory thereafter made entered it as a new switchboard?

A. That was a different type of No. 1 board.

Q. Have you set it up here? A. I don't think it is on here.

Q. Why wasn't it set up on here? Did the company pick out only the ones that had comparatively short service and set them 1021 up here?

A. This list is not complete.

Q. How was it made up? You have already told us that you are showing a six year life by actual experience from this set up. as I understand you, this is not even a tabulation and computation based upon your actual experience because you haven't set up all of your switchboards in different planes?

A. I say it is not complete.

Q. And doesn't mean anything at all. That is the great reason why it doesn't mean anything at all.

Mr. Frank: He told you why he set it up.

Q. He made a comparison between this figure and the depreciation reserve figure.

A. It is merely examples. I would like to explain the effect of

salvage again, if I may?

Q. I understand what salvage is. That is what is left of equipment when it ceases to be used as a functioning part of the equipment, there is no question about that, and whether worth ten cents or a hundred dollars it is salvage nevertheless, but what I am getting at now is why you come in here with this kind of a set-up and compare it with your original depreciation, when it is not accurate, when it is admitted to be not accurate.

A. It is stated it is only examples of replacements, and it also states that it shows the reasons for replacements, and shows-

1022 Q. (Interrupting.) Right there. If made only to show reasons for replacements, why did you say inadequacy and obsoleccence, and why did you try to get the average time if you didn't want it for comparative purposes?

A. The average time is interesting, and it does mean something.

Q. Bearing upon this question of depreciation? A. It means something in connection with that.

Q. We are not here to be interested as much as we are to get at the facts

Mr. D. A. Frank: We object to counsel arguing with the witness and making side-bar remarks that have nothing whatever to do with the matter he is investigating, and I want to object to any such sidebar remarks.

Mr. Howard: I am not making any side-bar remarks. They brought in this set-up showing the time which they have used these switchboards and the reason why they are discontinued, and then they strike an average time of the life of the equipment used in these different cities. He says it is interesting, and I say we are not raising questions of interest, but we want to know what relation it bears to the depreciaton reserve.

A. This shows an average life of 6.83 years is salvage value and is not considered. Then we would have to have a higher rate of depreciation on the central office equipment in that our reserve, as set up for central office equipment, contemplated a life of 10 years, whereas this exhibit shows for this number of switchboards that have

been replaced, that the average life was only 6.83 years.

1023 That on the the fact of it shows that we have considered the effect of the salvage on these switchboards in figuring our depreciation rate of 10%.

Q. Wouldn't that be true if you had set up all the switchboards you had in use, and not taken what I judge from your answers, was

a hand-picked selection?

A. They are not hand-picked.

Q. Why didn't you get the San Antonio switchboard in that you

installed in the Taylor Exchange?

A. I don't know. There are many other switchboards that have been replaced in the State of Texas not included in here. It is rather a difficult job to build up such a record as this, and some must have been overlooked.

Q. Yes, sir. You speak of salvage and junk value of these different things; isn't it a fact that a great part of these things you have taken out after they have been in service short periods, are taken out of that particular Exchange and re-installed in another exchange of the same Company where they are fully adequate?

A. Yes, sir. It is also a fact-

Q. (Interrupting.) In this set up do you show any places where

the equipment is used in different places?

A. No, sir. But in such cases the initial installation cost of the switchboard, plus the cost of removal, plus the amount of depreciation and so forth, due to wear and tear and that kind of thing, would be charged to the reserve for replacements, and then this switchboard when re-installed would be re-installed at the current price of that switchboard.

Q. Ain't some of these switchboards taken out and put in 1024 other places and inventories and carried as new equipment?

A. They are all re-installed at the current price of the new equipment, certainly. They have to do that. All other material is handled in like manner.

Q. If you put in a switchboard here and use it for four years and it becomes inadequate and you take it over to Richmond and put it in there,—you put it in there as a new switchboard?

A. Yes, sir, this is what would happen-

Q. (Interrupting.) And when you value the Richmond property, you set it up as a new switchboard and value it as such?

A. Just like a pole that was taken down and was in good condition. When that was re-used, as material, it would be priced at the

current price.

Q. You know it to be a fact that they did take a switchboard from San Antonio, probably out of one of the central offices over there, and brought it over here and installed it in the Taylor Exchange after it had been used several years, and then in the inventory in this very rate-hearing it was inventories and appraised as new equipment. Do you know that as a fact?

A. No, sir, I don't know that as a fact.

Q. Mr. Hoag, have you before you the Interstate Commerce Commission Rules?

A. No. sir.

Mr. Duls: We have it. This is Exhibit No. 11.

Mr. Howard: Give it to Mr. Hoag.

1025 Q. What is the number in which is carried "Replacements"—it would be under "Operating Expenses"—turn to that.

A. It is Item 23 on Page 67.

Q. What does it say you can set up there in the way of maintenance and repairs?

A. "Depreciation of plant and equipment.-Telephone Com-

panies——"
Q. (Interrupting.) Is that under "Operating Expense?"

A. Yes, sir.
Q. Or under the depreciation reserve?

A. It explains itself.

Q. Before we get started, as I understand that, it sets up what are operating expenses, and then subdivided operating expense under

different heads, does it not?

A. This explains itself. "Depreciation of plant and equipment.— Telephone Companies should include in operating expenses depreciation charges for the purpose of creating proper and adequate reserve to cover the expenses of depreciation currently accruding in the tangible fixed capital. By expense of depreciation is meant—(a) The losses suffered through the current lessening in value of tangible property from wear and tear, (not covered by current repairs); (b) Obsolescence or inadequacy resulting from age, physical change, or supersession by reason of new inventions and discoveries, changes in popular demand or public requirements; and (c) Losses suffered through destruction of property by extraordinary casualties."

Q. Well, the-, these things of obsolescence and inadequacy, as you run into them when operating your plant, you charge them off to operating expenses and pay them right along out of the earnings of the company and they disappear as operating expenses the same as the salaries paid to your operators, don't

they?

A. Out of the money earned by the telephone company in the rendering of service a fund is set aside to care for these expenses.

Q. There should be no set-up then for it. These are operating

expenses we are talking about.

A. (Reading.) "Depreciation of plant and equipment—Telephone companies should include in operating expenses depreciation charges for the purpose of creating proper and adequate reserves to cover the expenses of depreciation currently accruing in the tangible fixed capital."

Q. Aren't you under the operating expenses allowed to pay out the repairs and maintenance, even though it may partake of the nature of replacements, in order to keep the plant functioning?

A. "Repairs" may cover that. That is on page 66 of the I. C. C. handbook, Item 21, Repairs defined,—"Repairs, as used in the text of the various operating expense accounts, includes ordinary and

extraordinary repairs." Then they go on and detail what those things are, the day to day up-keep and maintenance. And then here it states, about the middle of the page, "Ordinary repairs are not required to be taken into account in fixing a rate of depreciation."

Q. Is there any discussion of what constitutes ordinary repairs,

does it define ordinary repairs?

A. Define ordinary repairs?

Q. Yes, does it do that?

A. Yes, sir.

Q. Let us see what they are.

A. (a) "Testing for, locating and clearing crosses, breaks, grounds, and other line troubles, including routine work intended to prevent such troubles, as, for example, pulling up slack, tightening guys and re-setting guy stubs, trimming trees, straightening poles and cross arms, and cleaning and adjusting apparatus." "(b) Replacements of minor or short-lived parts of structures, equipment or facilities." "(c) Replacements of minor parts of wire plant or equipment, made necessary by reason of faculty adjustments, excessive strains, mechanical injuries, or other minor casualties, not provided against in the charge for depreciation of plant and equipment; (d) Rearrangement ad changes in location of plant, except subscribers' station equipment (for which a special account is provided). This included re-arrangements of circuits, re-association of party lines, re-arrangeing grouping of trunks and calling circuits, re-cross connecting on distributing frames, re-running jumper wires, underlining switchboard jacks, etc., together with materials used for such purposes which do not add to the tangible value of such plant; (e) Recovering salvage and removing retired or abandoned property (except subscribers' station equipment) when such costs are not provided for by the depreciation reserve."

Q. My understanding of it was instead of carrying depreciation reserve under operating expense—they seem to put that as a

1028 sub-head of operating expense?

A. Yes, sir.

Q. I didn't understand it to be that way. But how, this operating expense, I spoke of a while ago, that is paid out just as your ordinary expenses,—they do not go into any reserve you just pay them and get rid of them out of the earnings of the company as you go without affecting your depreciation reserve?

A. Yes, sir.

Q. There are some considerable things in there that could be charged to operating expense, like where you re-route your lines, and where you make these replacements, and trimming trees. That is one thing that is paid out of operating expense, but in your set-up you sought to fortify your depreciation reserve by an item of that kind,—trimming trees where wire runs through them.

A. No, sir. I attempted to fortify the reserve by saying where

A. No, sir. I attempted to fortify the reserve by saying where wires ran through trees they were subject to great wear, wore out more rapidly. It made necessary the replacement of the wire.

Q. You would have to insulate the wire again, or put in a minor

piece of wire?

A. No, sir, we would have to replace a certain length of wire. It might be possible that an ordinary little wear of the insulation could be repaired, and if that was done it would be charged to repairs. If the whole length of wire was replaced, that would be charged to depreciation.

Q. They don't undertake to define what "minor repairs" are?

A. I just read you a considerable amount of detail. Q. They don't put any real limit on it?
A. Yes, sir, they do.
Q. Just read it again.

A. You don't want me to repeat all of it?

Q. No. sir.

1029

A. Section B: "Replacements of minor or short-lived parts of structures, equipment, or facilities."

Q. Is there any limitation on that other then the word "minor."

A. The limitation is established in this way: Minor or short-lived parts are defined so that as they are repaired the charges are made to repairs and maintenance. Also, major items of plant are defined, and where they are replaced the charges are made to reserve for replacements.

Q. Mr. Hoag, you spoke yesterday about commissions and courts allowing certain percentage, did you not, around 6 and 7 per cent?

A. I don't think I did. I think Mr. Frank did.

Mr. Duls: I did, Mr. Howard. I said it amounted to an average between 6 and 7 per cent.

Mr. Howard: Those were in cases where the maintenance repairs had not been taken care of under your Interstate Commerce Commission method?

Mr. Duls: No, sir, they were all telephone cases that have arisen since the Interstate Commerce Commission has come into effect. All recent telephone cases. Everyone of those cases were under the

I. C. C. system of accounting.

1030 Mr. Howard: When were those rules put into effect?

Mr. Duls: In 1913, first of January.

Mr. Howard: And these cases you referred to are since that time? Mr. Duls: Everyone of them, yes, sir.

Mr. Howard: And the books were kept under the Interstate Com-

merce Commission system?

Mr. Duls: Yes, sir, we used particular care in preparing that list of cases to get them just that way, and they are all telephone cases. They do not include gas, electric light and street railway company cases at all,-all telephone cases.

Mr. Howard: I think that's all, Mr. Hoag.

Redirect examination.

(Questions by Mr. J. D. Frank:)

Q. Mr. Hoag, counsel has questioned you with reference to appreciation in the value of land, and has asked you if you have made any allowance for that in your reserve to take care of replacements.

Does the fact that the land has appreciated prevent the plant from depreciating?

A. No, sir.

Q. You have to use that land in connection with the operation of this plant, don't you?

A. Yes, sir.

Q. If you have a lot now and put a house on it worth ten thousand dollars, and say the lot originally cost two thousand dollars, and in the course of years it appreciated to the extent of one thousand dollars, and so the lot is then worth three thousand dollars, and you have to repaid a certain part of the house, would the fact that your lot appreciated in value give you any money with which to repair that part of the house?

A. No, sir.

Q. And that is the same proposition with reference to this telephone property, isn't it?

A. Yes, sir.

Q. Does your plant, as a whole, ever wear out?

A. The plant as a whole does not wear out at any one time, it it being replaced from day to day, week to week and month to month.

Q. Now then, what effect on your plant with reference to giving service would it have if you, on account of appreciation in some parts of it, did not set aside any reserve for replacements and didn't make any replacements?

A. Then the plant would wear our and go out of service.
Q. Even thought a certain part had appreciated in value?

A. Yes, sir.

Q. Counsel has questioned you with reference to the salvage value of switchboards. Can you tell us what percentage of the cost of assembling and placing a switchboard is represented by labor?

A. Approximately 50 per cent. That is, labor and incidental

costs.

Q. Then, is the salvage value high or low when you remove one of those boards?

A. The salvage value is low. I testified yesterday that if this Houston Preston switchboard were removed that the realized salvage would be approximately 20 per cent of the original cost.

Q. Now, in the exhibit which you prepared showing the removal of certain boards, did you intend to put that in as being a complete

record of all the boards which have been removed?

A. No. sir.

Q. Merely used to set out some examples of boards which have been removed?

A. That is all, yes, sir.

Q. You never made the statement that included all of the boards?

A. No, sir.

Q. In the list all of those boards were actually removed?

A. Yes, sir.

Q. For the causes set out in that exhibit?

A. Yes, sir.

Q. When each one of those boards was removed, you not only had

to charge your reserve for depreciation with the original cost of assembling and installing those boards, but also had to charge your reserve with the cost of removing those boards, did you not?

A. Yes, sir and in addition had to charge the reserve for replace-

ments with the depreciation of the switchboards.

(Examined by Mr. Howard:)

Q. I asked him a while ago in speaking of this set up of 1033 these different towns and the switchboards if he ever made the statement that he intended to include all the switchboards and he said no. I will ask you to turn to the heading which explains what this set-up is.

A. The heading reads: "Life of Central Office Switchboards in Texas." It might have been better to have added to that heading

"Examples."

Q. In your opinion wouldn't that heading convey to the mind of any reader that this was intended to be, and was, a set-up of all the switchboards,-the life of all the switchboards, in Texas?

A. If the word "all" had been added in the heading it would be

specific. It might be a bit misleading as it is.

Q. It don't say "part," it says "Life of Central Office Switchboards in Texas" and that means all.

A. That means the life of the boards as listed.

Q. It doesn't say that. It doesn't say a partial list,—it says, "Life of Switchboards in Texas."

But it does not say specifically all of the switchboards in Texas.

Q. It doesn't emphasize that point.

Examination resume-.

(By Mr. J. D. Frank:)

Q. Counsel has also questioned you with reference to the proposition of taking a board and placing it in the Richmond, Texas, ex-Say a board was taken out of the plant in Houston in 1916 and was placed in the Richmond Exchange. If thereafter you were

making an inventory of the Richmond exchange would you 1034 appraise that board as a new boards,—or would you appraise

it in its depreciated condition?

A. In appraising any such property it would be appraised on the basis of the reproduction cost new, and then to get at the value of the switchboard, in like manner as to get at the value of the rest of the property, the accrued depreciation would be deducted from the reproduction cost new.

Q. That is what you have done in the case of Houston, is it not,

Mr. Hoag? A. Yes, sir.

Q. Mr. Hoag, if you had to spend some money in Houston this week for replacements, when would you say that property which is displaced was installed in Houston?

A. Dealing with the plant as a whole I should say that property

was installed about 16 years ago.

Q. Then, you are not only taking care of replacements which are occur-ing now of property which was installed years and years ago, but you have got to take care of property which will wear out in the future?

A. Yes, sir.

Q. The reserve for replacements which you are setting aside at the present time is based on the property which you now have whereas the replacements which are being made from day to day are as to property placed here years and years ago?

A. Yes, sir.

Q. Counsel has questioned you with reference to the expense of maintenance and depreciation. Both og those are treated as operating expenses, are they not?

A. Yes, sir.

Q. And that is in accordance with the system of accounting 1035 prescribed by the Interstate Commerce Commission?

A. Yes, sir.

Recross-examination.

(Questions by Mr. Howard:)

Q. Where does the age of this equipment appear in your appraisal or inventory?

A. The age?

Q. Yes, sir.
A. The existing equipment in Houston?

Q. Yes, sir.

A. The age does not appear.

Q. You haven't undertaken to set that up and show its condition? A. The per cent condition appears. The per cent condition was obtained by a physical inspection as explained vesterday.

Q. You have ignored entirely the age of the plant in determining your appraisal?

A. I considered the actual condition of the property as found when I made the inspection.

Q. You ignored the question of the age entirely in making your appraisal?

A. Yes, sir,

F. M. Hoag, who had been previously sworn as a witness, 1036 was recalled in rebuttal by the Complainants, and in answer to questions propounded testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. Mr. Hoag, you have already been sworn in this case, of course? A. Yes, sir.

Q. You heard the testimony of Mr. Kelsey with reference to the proper amount to set aside for annual reserve for depreciation?

A. Yes, sir.

Q. You heard what he had to say with reference to \$4.00 per station being sufficient for the Keystone Telephone Company at Philadelphia?

A. Yes, sir.

Q. Do you know anything about the character of the Keystone telephone plant in Philadelphia as compared to the character of the

telephone plant in Houston?

A. I saw the Keystone plant in Philadelphia in 1913; went over that plant, and also the Bell Plant at the same time. Both plants are eighty to eighty-five per cent underground. That type of construction,-that kind of construction is made necessary on

1037 account of the aerial wire tax which the city of Philadelphia has imposed, which, as I recall it, amounts to \$3.00 per mile of aerial wire per year. That means that an aerial wire construction cannot be placed, and as a result of that, both the Bell Plant in Philadelphia and the Keystone Plant are practically completely The underground cables, for instance, extend into the residence districts, and they use what they call -- and cable in the residence sections. In the residence sections of Houston we would build pole lines and string aerial cable, aerial wire, and place drop wires instead of extending through under-ground lines direct from main conduit lines into buildings or outside of buildings, on to - and it makes for a much lower rate of depreciation.

Q. Then you would naturally expect to have a lower reserve for depreciation for a plant of that kind than you would expect to have

for a plant of the character of the plant here in Houston?

Taking the composite rate of depreciation for Houston and the composite rate for Philadelphia, they are really not comparable. We use a low percentage rate of depreciation where we have underground plant in Houston.

Q. Now, Mr. Hoag, Mr. Lyndon put in some set up here and adopted that figure as the annual reserve for replacements. 1038

A. My understanding of Mr. Lyndon's set up is that he has approached the whole matter of depreciation from a somewhat different standpoint than we do, in that, his set up, as I understand it, is on an investment basis,—that is, it is dealing with money, and money only. Our set up for depreciation has been determined, first, by the forty years of experience that the Bell Telephone Companies have had in the operating and maintaining of telephone properties. I, personally, have had an opportunity to check the rates of reserve as established by the American Telephone & Telegraph Company. Those rates of reserve are the basis for the rates which we use. I have known of toll lines, of cable plant, of telephone central office equipment which has been installed and which has later been replaced, and have had the opportunity to check out in detail the different rates of reserve as applied to different kinds of plant; all of our experience in Texas, all of our experience in the Southwestern Bell System, covering five States, and as I stated, the experience of the Bell

Telephone Companies throughout the United States, and all of that

forms the basis for the rate of reserve as established.

Q. Now, you have made a very careful study of this proposition in arriving at what, in your opinion, constitutes a proper annual reserve for the replacements?

A. Yes, sir. Q. Has anything that Mr. Kelsey or Mr. Lyndon had to say 1039 with reference to this matter caused you to change your opinion as to what is the proper amount?

A. No, sir, they have not dealt with the matter in such a way.they have not developed anything which would cause me to change

my opinion.

Well now, I wish you would explain to us just how you consider

"junk" value with reference to depreciation.

A. Any part of the plant having a "junk" value means, necessarily, that a lower rate of reserve, a lower percentage rate of reserve is applied than to a part of the plant having an equal length of life, but no "junk" value; in other words, the "junk" value tends to reduce the per cent rate of reserve.

Q. Well now, you did take into consideration "junk" value in arriving at the proper amount of the annual reserve for each of the

items of the property?

A. The "junk" value—the salvage value must necessarily be considered in arriving at the proper per cent rate.

Q. I believe you arrived at the figure of 6.33?

A. Yes, sir.

Q. Now, does that 6.33% apply to the "junk" value or to 100% of the property?

A. You mean does it apply to the depreciable value or the first cost?

Q. Yes, sir.

A. It applies to the first cost of the physical property. 1040

Q. Now then, if you had applied it to the depreciable property, would it have been 6.33%?

A. No, sir, it would have been increased to possibly 8½%. haven't figured that out and that's approximate.

Q. But you made due allowance for this "junk" value in arriving at this percentage?

Q. All of which was considered in connection with your direct evidence in this case,—the evidence put in on direct testimony?

A. Yes, sir.

1041 Redirect examination.

(Questions by Mr. J. D. Frank:)

Q. Mr. Hoag, have you estimated the amount which should be set aside each year as an annual reserve for replacements?

A. Yes, sir.

Q. What is that expressed in percentages of the reproduction cost new of the property and in dollars and cents?

A. That is 6.334. Q. That is what?

A. Of the reproduction cost of the property, and that in dollars and cents is \$359,999.86.

Q. Which has to be set aside each year to take care of replacements?

A. Yes, sir.

Q. Now, what is your understanding or explanation as to the difference between the depreciation and reserve for depreciation or

reserve for replacements;

A. The difference between depreciation and reserve for replacements is depreciation is a physical condition of the property due to rust and rot, wear and tear and other causes which makes for a lessening in value of the property. The reserve for replacements is the fund set aside to care for deterioration which is certain as well as the many other things, such as inadequacy, obsolescence, fire and storm and other casualties.

Q. Have you an exhibit with reference to this matter?

A. Yes, sir.

Mr. J. D. Frank: We offer that exhibit in evidence as plaintiff's exhibit No. 24.

1042 (Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 24, as requested.)

Q. What does your Reserve for Replacements cover?

A. It covers, first, Physical Replacements, that is, replacements due to physical causes. That can be seen and can be measured with some degree of accuracy and certainty. That includes rot, rust, wear and tear. The second is a functional—that is, something that can be seen and anticipated with less certainty than physical, but with more certainty than contingencies, and includes obsolescence, inadequacy and public requirements. The third is contingencies and covers fires, floods, storms, sleet, lightening, accidents and other casualties.

Q. I think some of the matters mentioned by you speak for themselves, such as wear, tear, rust and rot, and so forth. Take up some

of the other items and explain what you mean.

A. Obsolenscence. Apparatus giving superior service might be, and is, designed from time to time, resulting in existing apparatus and equipment becomeing obsolete. Inadequate on account of the growth of the community. Public requirements are things such as street widening, highway requirements-highway improvements which require the repla-ement of poles, conduit lines and so forth. The casualties, fires, floods, storms, are such things as the 1915 storm in Houston, at which time something in excess of fifty thousand dollars was charged to reserve for replacements.

Q. Now, that you have explained what this covers, take up the exhibit which you have just introduced in evidence and explain

that to us.

A. On page 1, the first item is land. Land doesn't depreciate. The

second item is buildings on which we have figured a depreciation of 3 per cent per annum. That means a life of 1043 331/2 years. I have an exhibit showing the average life of telephone buildings in Texas.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 25.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 25, as requested.)

Q. Now then, just referring to this last exhibit briefly, what does that show with reference to the average life of Telephone Central Office Buildings in the State of Texas.

A. That shows an average life of 11 2/7 years. Q. How have you set that up on that exhibit?

A. I have shown the location of the buildings, the type, the period of ears in service, and the cause of removal.

Q. You have included in that some buildings here in Houston,

have you?

A. Yes, sir, two Houston Buildings.Q. How many buildings do you show in that exhibit?

A. Seven.

Q. What was the average life of these buildings?

A. 11 2/7 years.

Q. All right, take up some other item on your exhibit other than buildings.

A. The next item is pole plant. Poles have a life of about 12

Q. Before we get to that, Mr. Hoag. According to your actual experience as to those buildings, I believe, the average life was 11 2/7

years. What have you figured as the average life of build-1044 ings in your set up for the amount of reserve for replacements?

A. 33 1/3 years.

Q. You figured that as the average life of buildings?

A. Yes, sir.

Q. Go ahead with your explanation as to the annual rate of

reserve for replacements, in connection with the pole plant.

A. A pole has a life of about 12 years, if permitted to live their life when initially installed, but poles are seldom permitted to live their life. Inadequacy is the biggest factor in connection with pole We have figured 10 per cent depreciation on the replacements. pole plant.

Q. All right, take up some other item and explain it.

A. Bare iron wire constitutes a portion of the aerial plant, which is of a temporary character.

Q. Why do you say that is temporary?

A. Because it is seldom permitted to live ite life when initially installed. Inadequacy has the greatest effect upon the replacements of bare iron wire.

Q. How about the actual physical deterioration of that kind of equipment in Houston, Mr. Hoag, is it rapid, or not?

A. In Houston the deterioration of bare iron wire is very rapid on

account of the damp moist climate.

Q. Causing it to rust and wear out quicker than it ordinarily does

in a dryer climate?

A. Yes, sir. Wire which will last down here three, four, five or six years will last twenty years or thirty years out in some portions of West Texas where it is dryer.

Q. All right, take up another item.

A. Insulated Wire comes in the same class as bare iron 1045 wire, and the greatest cause of removal is inadequacy, and the climate had a considerable effect upon the insulated wire.

Q. That is protected by insulation, is it not?

A. Yes, sir, but that insulation in Houston is subject to a sort of steaming process, in the summer time particularly when the rain fall is considerable, and the life of the insulation is very short, and the life of the wire is very short.

Q. The steaming process you speak of causes that insulation to

rot and wear off?

- A. Rot and decay. Another item is central office equipment. The depreciation has been figured at 10.5 per cent. I have an exhibit on that showing the average life of a very considerable number of central office switchboards in Texas,
- Mr. J. D. Frank: We offer that in evidence of Plaintiff's Exhibit No. 26.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 26, as requested.)

Q. Now, what do you show by this exhibit, Mr. Hoag?

A. On the last page of that exhibit I show the total number of common battery boards, and the total number of magnate boards.

Q. Now, explain the heading at the top of this exhibit, as to what it shows there, what you are trying to do in setting up this exhibit. A. First is the location in which the switchboard was, second is

the type of switchboard, third is the period of service, fourth is the years in service, and fifth is the cause of removal. .1046

Q. Then, what do you show with reference to the total

number of common battery boards on the last page?

A. A total of 18 common battery boards having an average life in service of 6-83/100 years.

Q. Now, that has been the actual experience of the telephone company with reference to all of these boards listed, has it?

A. Yes, sir.

Q. What have you used in setting up the amount of your annual reserve for replacements as the average life of common battery boards?

A. 10 years.

Q. Does this exhibit set up any boards for the City of Houston? A. Yes, sir.

Q. On what page of your exhibit?

A. On page 6 of the exhibit, about the middle of the page.

Q. All right. Mention the boards there, how long they were in service and why they were removed?

A. The first switchboard in Houston was in service three years. It was removed on account of obsolescence

Q. What kind of board was that, Mr. Hoag?

A. Magneto switchboard.

Q. Was that one of those boards for telephone systems where you had to turn a crank on the telephone in order to get in connection with the operator?

A. Yes, sir.

Q. That style of board only lasted three years?

A. That particular board only lasted three years. There were other megneto boards installed and replaced. The second magneto board lasted nine years. The third magneto board lasted seven years.

Q. I notice you have there as the cause for the removal of that board "inadequacy." Can you explain just what that was in con-

nection with that particular board?

A. The growth was such that the switchboard would not care for the business, and that board was replaced with a magneto multiple board, that is, a board which would handle more business. That only lasted three years, at the end of which time the public requirements in Houston were such that a common battery switchboard had to be installed.

Q. What is a common battery switchboard?

A. A common battery switchboard is the type of board which we have in Houston, it only being necessary to remove the receiver from the hook to signal the operator.

Q. Public requirements had become such that you had to remove

the old style board and put in the new style board?

A. Yes, sir.
Q. Let me ask you at this point about this proposition: All of this property that is removed has a salvage value, had it not?

A. Some of it has, that portion that is removed before it has lived its useful life, in general has a salvage value, but that portion which is removed on account of being worn out generally has no salvage

Q. How do you handle that in connection with your reserve for depreciation, that is, with reference to the salvage value of the prop-

erty which is removed?

A. The current value—the current cost of the property at the time of removal is taken out of the capital account,

and the cost of that property is debited against the reserve for replacements. Then that property, if it is fit to be used, or if it has any junk value, goes into the supply account. The supply account is debited with the value of that property as material, exclusive of the cost of installing it and removing it, and the difference between the value of that property as material, and the original cost plus the cost of removal, is debited against the reserve for depreciation, or replacements.

Q. Also, the difference between the original cost of the property and what you realize from the sale of the property as junk, when-ever you junk it, is t-eated in what manner?

Q. That is charged to your reserve for depreciation?

Q. All right.

A. A good example of that might be the following: Suppose a switchboard is installed at a cost of \$1,000 and it stays in service for say ten or twelve years. It is then removed at a labor cost to remove it of \$50. It hasn't much value, practically worn out at the end of that twelve years and it is sold as junk for \$100. Then the net salvage is the selling, or junk price minus the cost of removal; that is, it will be \$100 less \$50, the \$50 being the cost of removal. Therefore the part of the investment which depreciates is \$1,000 minus \$50, the \$50 being the realized net salvage, of \$959. such a case \$950 would be charged against the reserve for replace-

Q. That is a pretty clear example. Take up some other item on your exhibit No. 24. I notice you have there right of way. Explain that to us, Mr. Hoag.

A. Right of way depreciates only at that time it is abandoned.

Q. Has right of way any salvage value?

A. It has no salvage value, and this 4 per cent figure used here means that about 4 per cent of the total right of way is abandoned

Q. Are you constantly abandoning right of way?

A. Yes, sir. An example of that in the City of Houston would be in the case of the permit fee which we pay to the city for each pole set. We have been paying that fee since 1898, and that cost is charged against the right of way account as are also such other right of way expenses as are incurred in connection with the cost of setting poles. Each year in Houston we set from 700 to 1,000 new poles and displace a very considerable number running up to 600 of 700, and as those poles are displaced the right of way account has to be credited with the right of way costs originally in-

Q. And you have right of way costs in connection with the setting of each pole?

A. Yes, sir.

1050

Q. All right. Take up one more item on that page and explain it to us. Take the last one, stable and garage equipment. What is the percentage set aside for your reserve for depreciation on that,your reserve for replacements? A. 20 per cent.

That is based on an estimated five year life for

stable and garage equipment.

Q. That consists mostly of automobiles?

A. Yes, sir. Q. Ford cars?

A. Yes, sir. Q. Those cars are subjected to constant use, are they? A. Yes, sir.

Q. And severs uses?

A. Yes, sir.

Q. I believe you have heretofore testified that some of them were trucks that hauled the heavy timbers, the heavy poles?

A. Yes, sir. Q. All right. Take up page 2 of your Exhibit No. 24 and ex-

plain that to us.

A. Page 2 shows the Weighted Annual Rate of Reserve for Replacements. The first column represents the annual rate or reserve for each class of plant; the second column represents the per cent of total reproduction cost of each class of plant, and the third column represents the weighted annual rate of reserve.

Q. Take up your first item there.

- A. Land doesn't depreciate and we do not set aside any deprecia-
- Q. The total—the per cent of the total reproduction cost of that particular part of the plant, I believe, is 4.58 per cent?

A. Yes, sir. Q. Take up your second item.

- A. Buildings. We figure 3 per cent depreciation. That represents 10.15 per cent of the total reproduction cost of the plant as a whole, and therefore the weighted annual rate of reserve is .305 for builsings. That is arrived at in like manner as the weighted average obtaining in the previous study we had.
- Mr. Howard: What was that in connection with? I have forgotten now. 1051

Q. Per cent condition of the plant, was it not?

A. Yes, sir.

Q. Take up one or two other items on that,

A. The pole plant—the annual rate of reserve is 10 per cent. The total-per cent of the total reproduction cost of the pole plant to the cost of the plant as a whole is 7.86 per cent, and the weighted annual rate of reserve is .786 per cent. Those items considered as a whole produce an annual rate of reserve of 6.334.

Q. Now, that is the way you arrive at the annual rate of reserve

as set out on page 2 there?

A. Yes, sir. Q. Now Mr. Hoag, is that figure based on actual experience in the telephone business?

A. Yes, sir, that is based on many years of actual experience. Q. And that is based on actual experience in the telephone busi-

ness in the State of Texas?

A. Yes, sir.

Q. Do you think that that figure is a conservative one?

A. Yes, sir. Q. Is that based entirely on your experience in the telephone business Mr. Hoag?

A. It is based on the experience of the telephone company.

Q. Are you familiar with the allowances that are usually made on this-what the amount of depreciation reserve usually runs on telephone properties of this magnitude?

A. Yes, sir.

Q. Take up page 3 of your exhibit and explain that, Mr. Hoag. A. Page 3 shows the total reproduction cost of the physical

property as \$5,638,610. It also shows the annual rate of reserve 6.334 per cent, and then shows the amount of annual

reserve, which is \$359,999.86.

Q. Now, Mr. Hoag, you have given us testimony with reference to certain causes which must be taken into consideration in figuring the annual rate of reserve for replacements. Have you prepared an exhibit which sets forth causes other than normal wear and tear and so forth, which tend to limit the life of a telephone plant?

A. Yes, sir.

Mr. J. D. Frank: We offer that exhibit in evidence as plaintiff's Exhibit No. 27.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 27, as requested.)

Q. Now, what is shown by that exhibit, Mr. Hoag?

A. Causes other than Normal Wear and Tear, Rust and Rot which tend to limit the life of Telephone Plant.

Q. Will you read the first paragraph of that.

A. "Telephone plant generally is subject to more or less deterioration on account of the wear and tear and rust and rot. In addition a large portion of the plant is replaced before it lives it- life on account of other factors, such as obsolescence, inadequacy, changes in public requirements, accidents, storms, fires and other casualties."

Q. Then you set out there some causes other than normal wear and tear and rust and rot which tend to limit or reduce the life of the

various parts of the plant.

1053 A. Yes, sir.

Q. Take up your pole plant there and explain a few of

those items.

A. The first item under "pole plant" is the extension of underground conduit. That means inadequacy, means that when the poll line becomes inadequate to care for the business that underground conduit is extended and displaces the pole line.

Q. Take item No. 3. A. Street widening and other highway improvements, such as charges in curb lines, changes in grades and so forth.

Q. All right, take No. 8 and explain that to us.

A. Substituting poles in the alleys for poles in the streets.

Q. Why are those substitutions made?

A. That would be in case of public requirement where we have to remove the poles from the streets and place them in the alleys, where alleys exist.

Q. Do you actually do that in Houston?

A. Only to a limited extent in that there — only a limited number of alleys in Houston.

Q. But it does necessary to do that, and you have actually done that in Houston?

35 - 219

A. Yes, sir.

Q. Take the last item under pole plant.

A. Replacement of crossarms (which are included in the pole line account) by aerial cable. When the aerial wire plant is replaced by aerial cables, then the wires and also the supporting cross-arms are removed. That in a case of inadequacy.

Q. Take your next item "Aerial Wire" and explain item No. 1

under that heading.

1054 A. The insulating material on wire breaks down more rapidly in a moist climate than in a normal climate.

Q. You testified about that a few minutes ago in connection with the steaming process of the insulating?

A. Yes, sir.

Q. Item No. 3.

A. Insulatied wire is strung through trees, and under these conditions the wear and tear is usually excessive. People will not permit you to trim the trees and the wire wears out rapidly.

Q. Item No. 4.

A. The occasional removal of drop wires on wholesale scale when the plan of distribution is radically changed, as for example, when pole lines on streets are replaced by distribution lines in alleys or on rear property lines. That happens quite often.

Q. The last item under that heading.

A. Wire is run in advance of aerial cable construction and is taken down when aerial cable is placed. Its special function therefore, in such cases, is what might be termed "pioneer" work.

Q. Why do you run those wires in advance? Wouldn't it be more

economical to run your cable?

A. No, sir, the economical thing to do is to provide such facilities as the amount of business seems to warrant, and that usually means in the residence section as the town grows that the first facilities provided are aerial wires strung on poles, which, as the section grows, are replaced with aerial cables.

Q. All right. Take the next section down there "Aerial Cable."

A. Aerial cable often represents an intermediate period in the telephone distributing plant. When only a few circuits are 1055 to be taken care of, open wire or twisted pair wire is used.

When more circuits are required, small size aerial cable is placed, which may later be replaced with larger size, and with still further growth aerial cable is replaced by underground cable.

Q. What is that caused from?
A. That is an example of inadequacy.
Q. That has been your experience here in Houston?

A. Yes, sir.

Q. What is the next item?

A. Item 2, is the factor of municipal requirement such as the extending of fire limits, or public demand also operates to reduce the life of aerial cable, as it is often necessary to replace aerial construction by underground for this reason.

Q. That is, you had aerial cable down in and around the business section of the city, or the town, when the town was small, and then the city established fire limits and you are not permitted to maintain that aerial cable there, but required to place it underground?

A. Yes, sir, and they enlarge the fire limits as the city grows, and

that makes it necessary to remove the aerial construction.

Q. The changes, as result of that, are charged up against your reserve for depreciation?

A. Yes. sir.

Q. Or reserve for replacements.

A. Yes, sir.

Q. Take underground cable, the first item under that.

A. Any defect occur-ing in the sheath, allowing moisture to enter the cable ruins it.

Q. Does that put any of the wires out of commission, or put 1056 all of the wires out of commission when moisture comes in contact with it?

A. Yes, sir, the paper insulation has to be kept absolutely dry,

otherwise the cable is out of commission.

Q. What is your second item?

A. The sheaths are liable to be damaged by electrolytic action. We take special precautions to guard against damage by electrolytic action, but the stree- car company changes the routing of their care, or something of that sort without out knowledge, and it frequently causes damage.

Q. I believe you have heretofore testified that electricity coming in contact with your cable has the same effect on it as if some kind

of acid was poured on it?

A. Yes, sir, corrodes and eats through the sheath at the point where it leaves the cable.

Q. Take some other item.

The construction of sewers and other subsurface work and the regrading of highways frequently necessitates the shifting or abandonment of conduits and the changing of the cables contained thereon. No. 7: Advances in the art making it economical to pull out old large diameter cables and substituting cables containing more wires, but of the same diameter, thereby avoiding expensive subway enlargements. That is an example of obsolescence.

Q. That is, your cable as originally manufactured, only carried so many wires, and now you make the smaller cables which contain

even more wires than the cable which you originally made?

A. Yes, sir.

Q. Has the Southwestern Company developed that im-1057 provements in the art?

A. No, sir, those developments have been brought about by the American Tel. & Tel. Co.

Take up Subsidiary Cable and point out one or two Q. All right.

items under that.

The subsidiaries extend from the main underground A. Item 1. cables to terminal poles of buildings. Their abandonment is frequently brought about by the necessity for abandoning terminal locations which are subject to the causes already mentioned in relation to shortening the life of exchange poles, and by removal of buildings. Item 2. On account of their location, subsidiaries are exposed to mechanical injury in much the same way as aerial cables. and to bur-ing and melting of the sheath when electric light or power wires come into contract with them.

A. The life of house cables is limited by inadequacy and building changes.

Q. Houses are re-arranged, and you have to re-arrange your cables

which enter into the houses?

A. Yes, sir. And I might say that Item No. 2 is an example of a casualty.

Q. Take up the next item, "Underground Conduit" and pick out a

few examples of that.

A. The first item under underground conduit is municipal improvements such as the change in the grade of highways, reconstruction of bridges and grade crossing work.

A. All right, take up another item.

- A. The second item is the construction of sewers and water 1058 mains, requiring the removal of conduit.
- Q. That is, your underground conduit is so constructed they would interfere with construction of these sewers and water mains on the part of the city, and you are required to remove them so as to get rid of that obstruction?

A. Yes, sir.
Q. Does that often occur in a city like Houston?

A. Yes, sir.

Q. All right, the last one at the bottom of that page, No. 5.

A. No. 5, Manholes are subject to inadequacy and in fact have to be rebuilt often.

Q. I believe you gave an example of that when Mr. Howard was questioning you today?

A. Yes, sir, I recited a specific case.

Q. Take your next item there on the next page.
A. "Subsidiary Conduit." The first item, the iron pipes used for subsidiaries are not ordinarily encases in concrete and are therefore more subject to corrosion that would be the case of iron pipes where such are used in main conduit.

Q. Do the climatic conditions in Houston add to that depreciation

of that particular part of the property?

A. Yes, sir, iron pipes rust out very rapidly here, and we have taken the precaution to use galvanized iron pipe, but even that rusts out.

Q. Item No. 5.

A. Subsidiary conduit connecting with pole lines has a relatively In some sections of a city the first construction will be entirely overhead, then as the plant grows, conduits will be

1059 installed and subsidiaries constructed between the conduit and the pole lines. As growth occure, the pole lines adjacent to the conduit will be the first one to become congested and the first to be removed. The conduit will them be extended, the pole lines removed, and the subsidiaries abandoned.

Q. Is that an example of inadequacy, obsolescence, or what?

A. That is an example of inadequacy.

A. No. 6.

A. Building reconstruction frequently causes the abandonment of subsidiaries. Q. You mean in reconstructing your property?

No, sir, the reconstruction of buildings to which the subsidiary conduit leads, not the underground main line conduits.

Q. Take up the itme of Central Office Equipment.

item No. 2 under central office equipment, and explain that,

A. It may become necessary to displace the switchboard due to growth which makes its capacity too small.

Q. Has that actually occurred here in Houston?

A. That has occurred several times here in Houston. example of inadequacy.

Q. I believe you had certain boards here in Houston which have

been removed on that account?

A. Yes, sir.

1060 H. P. TOPPING, a witness for the Plaintiff, was sworn and testified as follows, to-wit:

Direct examination

(Questions by Mr. J. D. Frank:)

My name is H. P. Topping and I live in Kansas City, Missouri. I am not a professional witness. It is sometimes necessary for me to appear in Court, or before Commissions, to explain the methods

that I have pursued in preparing my valuations.

My occupation is that of a Valuation Engineer and I devote my exclusive time to telephone valuations. I am connected with the Topping Valuation Company of Kansas City, Missouri; I own the Company and employ six men and two ladies. We do other kinds of work other than valuing telephone property; we handle public utilities and industrial work. I don't personally handle the industrial work, but that is in charge of another Department. an employee of the Southwestern Telegraph and Telephone Company, nor am I an employee of any of the Bell Companies.

I have been engaged in the general business of valuation work since 1905, with the exception of two years when I was

in the purchasing department of the telephone company. have had experience in the telephone business; I might explain in connection with that,-I began work for the telephone company on September 1st, 1897 at Lawrence, Kansas. My employment was with the Missouri and Kansas Telephone Company. In that day the telephone business was in its infancy. My first work was as a night operator. I slept in the office at night and attended to the calls, and did general work of any character that presented itself during the day time. It was necessary for me to familiarize myself with the switchboard, make repairs to the switchboards, repair worn

and defective parts and during the day time do such work as ground man, lineman, inspector, installer, collector,—general utility work. In fact, the business was very small at that time and there was only one men employed, and that was myself, outside of the manager. I occupied that position about a year and a half and I was then transferred to day work which consisted practically of construction and maintenance, installing telephones, building extensions to the plant, maintaining existing property and taking care of the toll lines. I was in that position for about two years and was then transferred from Lawrence, Kansas to El Reno, Oklahoma by the same company, as manager. The size of the exchange at El Reno was about 300 stations and I was responsible for the entire operation of the plant for traffic matters, and for all commercial matters. It was necessary to lay out the plant, build extensions, or rebuild the property, as the occasion might arise and in connection with that

work it was necessary to see that the material was unloaded when it arrived, hauled to the proper storage yard, supervise the workmen in digging holes, hauling poles, erecting them, stringing wires, stringing cables, installing telephones, in fact, in those days we did practically all our own work. I have installed switchboards. As manager of that exchange I had charge of the toll lines extending from Enid to Chickasha, a distance of approximately 95 miles, and from Yukon to Gary, a distance of approximately 45 miles, making a total of about 135 miles, and I was responsible for

the maintenance and the up-keep of the lines.

I remained in El Reno as manager until the spring of 1905 when I was transferred by the same Company to Kansas City, Missouri, given the title of Special Agent on the staff of the General Manager and assigned to valuation work and engineering. I handled that work for about two years and in 1907 I was transferred from the General Manager's Staff to the Purchasing Agent's Department as Chief Clerk. It was my duty as Chief Clerk to audit the requisitions for supplies, check them up with the engineers' specifications and engineers' estimates, and to see that the supplies were shipped, to see that they were checked and proper receipts returned to the Company. To see that they conformed to the specifications and check the bills and pass them for payment. I was Chief Clerk about two years. In 1909 the Telephone Company resumed valuation work and I was as

signed to that character of work. That work consisted of
making inventories of telephone properties for the purpose of
purchasing them. I did not merely make the inventory and
have some one else appraise the property we made the inventory

and valuation,—a complete appraisal.

Q. That was for the purpose od determining the value of a particular exchange when the company was selling one, and to determine the value of a particular exchange when the company was buying one?

A. Right at this particular time they were buying,—they were

not selling any.

In 1912, about the first of July, the Company began selling exchanges, buying and consolidating them. That was the Missouri

and Kansas Telephone Company and is a branch of the Bell Telephone Company. I was given the title, at that time, of Inventory Engineer, and transferred from the Purchasing Department to the General Manager's Staff. I was also given temporary charge of the purchasing Department for several months. A little later in the same year, the Company was again re-organized and I was transferred from the Staff of the General Manager to the General Plant Superintendent's Department, and given the title of Valuation En-

My duties, as Valuation Engineer, consisted of making appraisals for the purpose of selling, purchasing, consolidating and rate-mak-I had access to the Company's records, all of the engi-

neering data and and all of the available information pertaining to the subject of valuation work. In my position as Valuation Engineer for the Company, I made estimates as to the cost of particular construction work. I might state that between 1912 and 1916 we made two general inventories of all of the properties owned in the States of Missouri and Kansas by the Missouri and Kansas Telephone Company. The last one we started about the last part of 1914 and completed it in December 1916. In making that appraisal, we used between 50 and 100 field men and in the office compiling and assembling, building up the unit costs and valuation we used from 15 to 30 men. I had entire charge of that work. make that valuation, or do that work, took about two years. mained with the Missouri and Kansas Telephone Company, in the capacity of Valuation Engineer until the latter part of 1916, when I resigned and entered into the valuation business. I haven't worked for any particular telephone company since that time.

I have been engaged in General Valuation work. that while I was with the telephone company I valued something like two or three hundred properties, appregating something like a hundred to a hundred and fifty million dollars. And since engaging in business for myself I have made approximately fifty to seventy-five valuations, aggregating something like \$15,000,000.00.

My home is in Kansas City, Missouri. The most of my work is if in the State of Missouri. We do work over several states. We not in the State of Missouri. have a job right now on in New York and one in Michigan. have worked in Nebraska, Iowa, Missouri, Kansas, Texas,

1065 Arkansas and Oklahoma and Illinois. The jobs that we have been doing at that valuation work were all telephone jobs, with one exception—the one in Brooklyn, New York,—is an indus-

Practically all of these appraisals that I have been making of tele-

phone properties have been in connection with rate cases.

I have made an appraisal in the State of Texas, other than that made in this particular case. We made an appraisal, I believe, in 1917 at Nacoma, Texas of the Nacoma Telephone Company. was a property of something like forty or fifty thousand dollars in In 1917 we were retained by the City of Fort Worth to prepare an inventory of the property of the Southwestern Telegraph and Telephone Company in the City of Fort Worth.

1066 Redirect examination.

(Questions by Mr. J. D. Frank:)

Mr. J. D. Frank: We offer this exhibit in evidence as Plaintiff's Exhibit No. 35. The Exhibit is headed "Annual Depreciation Reserve."

(The paper was thereupon received in evidence, marked "Plaintiff's Exhibit No. 35," and is filed herewith.)

Q. First, Mr. Topping why is it necessary to set aside an amount each year to take care of your replacements or your depreciation?

A. You have property that is worn out in the service or becomes

inadequate or obsolete, or-

Q. (Interrupting.) Well, what does it cover?

A. It covers the replacements, the major replacements of the physical property.

Q. Well, why is it necessary to replace the property, what brings

about these replacements?

A. It is brought about, due to rot, rust and decay; to municipal and public requirements; to inadequacy and obsolescence and other causes; storms.

Q. Well now, what have you attempted to do in this Exhibit here?
A. I have attempted to determine the amount of money that

A. I have attempted to determine the amount of money that should be set aside each year to make these replacements of the major items as they occur and keep the property up in good service-able condition.

Q. Well now, take up the various items of property there and

explain your exhibit to us.

1067 A. The first item is land. There has been no allowance made on land. On buildings, I have used the rough 2½% per year, and multiplied that by the reproduction cost new of the buildings, for \$525,374.00, which equals the amount of depreciation reserve as \$13,134.00. On equipment consisting of central office and other equipment of central offices, I have used a rate of 10% or an annual amount of reserve of \$191,200.00.

Q. That is a large item of plant, is it not? A. Yes, sir, that is one of the large items.

Q. All right, sir.

A. Under the next heading "Subscribers' Station Equipment," I have totalled the items and used the rate of 10% of the total reproduction cost new, which gave me an amount of \$53,924.00 as the Reserve for Replacements. Under the "Distributing System" I have used the rate on poles of 10%, which equals \$55,564.00; on aerial cable, 8%, which equals \$68,946.00; on aerial wire, 15%, which equals \$25,269.00, on underground conduit main, 2%, which equals \$16,113.00.

Q. Well, you have figured it out as to all those various items?

A. Yes, sir.

Q. And how much did you get on your total distributing system there as the amount to be set aside?

A. \$211,337.00.

Q. Now, turn to the next page, on the "General Equipment." You have figured that out as to the various items in the same manner?

A. Yes, sir.

Q. And what do you get as the total amount of reserve on that class of property?

A. \$8,779.00, or a total reserve for the entire physical prop-

1068 erty of \$478,374.00.

Q. And that is a weighted average of 7.01%? A. Of the preceding physical property, yes, sir.

Q. Mr. Topping, how did you get these percentages that you have used there, "Per cent rate of reserve," for instance, on the total buildings you take 2.5% on the total equipment you take 10%, on total subscribers' stations you take 10% and so on, how did you get th-se percentages?

A. Those are standard engineering percentages. I took the standard percentages and adjusted them to meet conditions in Houston

as I found them.

Q. Well, now, give us an issustration of some of the things with reference to cuildings, which makes it necessary for you to set aside a Reserve for Replacement?

A. It is necessary to keep the buildings in a high state of repair. The wood works are kept pointed, the screens and awnings are main-

tained, roofs have to be maintained.

Q. Well, now, don't you draw a distinction between the maintenance and depreciation, or the amount that you have to spend on account of depreciation or replacement?

A. There is a distinction. Q. Well, what is that distinction?

A. The short lived parts are items that I would consider proper maintenance, such as cords on switch-board or batteries, or receiver cords on a telephone, or items of short life which are replaced at intervals of less than one year. The replacement of property of

major items would come out of reserve for replacements or

1069 out of this account.

Q. If something happened to your switch board down here, so that you had to repair a certain part of that, would that item of expense be charged up to maintenance or to depreciation?

A. If it happened to the switch-board with amount of any consequences, it would be charged to replacement. If it was some minor thing that didn't require a large expenditure, it would be charged to maintenance.

Q. That is, an ordinary break in the board would be charged to maintenance, but if you had to remove the board and replace part of

it, that would be a replacement?

A. Yes, if you had to remove a section, for example, of the board for some cause, the removal of that section would be chargeable to replacement.

Cross-examination.

(Questions by Mr. Howard:)

Q. I understood you to say that all the short-lived parts are paid out of the maintenance fund. You mean out of operating expense?

A. That would be out of the operating expense.

Q. The Interstate Commerce Commission set up provides for that, I believe?

A. Yes, sir, I think so.

Q. And for repairs generally?

Yes, sir.

Q. Repairs are distinguished from something that goes to replace a part of the plant?

1070

A. Yes, sir.
Q. Did you make an investigation to learn the average life of this telephone plant here in Houston?

A. To a certain degree I did.

A. About what is the average life? A. I would say between fourteen and fifteen years.

Q. Fifteen years I believe Mr. Hoag gave it. You accept the rate of annual depreciation, for depreciation reserve, as 7.1 per cent?

A. That is the way it happened to figure out.

Q. 7 per cent? A. Yes, sir.

Q. In other words, that would be 105 per cent for the average life—the average life is 15 years-

A. It would be 14 or 15 years, that would be my judgment. Q. So that is equivalent to saying the whole plant is 14 or 15 vears old?

A. No, sir.

Q. What do you mean by that average life?

A. If all of the component parts-all of the physical plant together would average 14 to 15 years.

Q. That is the same thing. I know if you put in a switchboard

vesterday that it is not 15 years old.

A. There would be some parts that would be replaced three or four times during the 15 years, and other parts that would last much longer.

Mr. J. D. Frank: You are confusing age with life.

Q. Do you consider the depreciation reserve has any re-1071 lation at all to the percent condition of the plant?

A. No, sir.

Q. Has that theory ever been advanced, that there is any relation between the two-is there any way of making a comparison between the two?

A. Not that I know of.

Q. No way to make any character of comparison between them? A. The only thing you could compare would be the accrued rot, rust and decay in the physical property at the time of the inspection. Q. You have got a plant with an average life of 15 years, and you set aside 7 per cent a year until you set aside 100 per cent, and that would wipe the plant out?

A. If that is permitted to stand, but that isn't -hat happens; you

are replacing constantly every year.

Q. And that tends to depreciate your depreciation fund, for if you have put in two or three switch-boards in ten of fifteen years, the ones that have gone out of use are not counted in determining the per cent condition of the plant?

A. No, sir, they would be gone.

Q. And at the same time your depreciation fund has been absorbed or reduced to that extent. What I am trying to get at: Suppose you started with a new plant, and parts of it are replaced, that of course comes out of your depreciation reserve?

A. Yes, sir.

Q. And tentd to reduce it?

A. Yes, sir.

Q. Then you start on with that replaced part and give that 1072 a new life, and start it on from that date?

A. Yes, sir.

Q. Then, when you find the plant is practically worn out, based on your 7 per cent reserve for depreciation, as a whole it has practically lived its life, because at 7 per cent that would bring it of the end of its life, and then you find only a 7 per cent depreciation in the per cent condition of the plant, that does not suggest anything to your mind?

A. That isn't what happens—not what happens in this case. parts are continually replaced and renewed. New Subscribers are added and worn parts are replaced. The plant that is inadequate

or obsolescent is replaced.

Q. That is what I am getting at. When you find that you have only got-got a plant fifteen years old, although you have been setting aside 7 per cent all these years-

Mr. D. A. Frank: Nobody has said the plant is 15 years old. Mr. Howard: I understood the average life of the plant was 15

Mr. D. A. Frank: You are confusing the life with the age, and they are two entirely different propositions, Mr. Howard.

Mr. Howard: I am speaking about the average age of this plant. Mr. D. A. Frank: You haven't asked that question yet.

Q. By life I mean age. What is the average age of this plant? A. I don't know.

Q. Have you any way of determining? 1073 A. There is no way I know of to determine. Q. It can be easily determined, can't it?

A. I don't know how you would go about it to do it, except by a physical inspection.

Q. All you would have to do would be to get the date of the items

put in at one time, and those put in at another, and you can get

the age of the plant in that manner.

A. That could be obtained if it was a property constituting a few items, but a property constituting a multitude of items like a telephone plant, where changes are constantly occur-ing, property is being constantly changed, added to and rebuilt and replaced it would be a difficult matter.

Q. But this is a difficult thing to run, a telephone plant?
A. The only way I know you could do it would be to get it on the basis of a physical inspection, and that is what I have done in this case.

Q. Assuming the age of this plant if five years. That would be 35 per cent set aside for depreciation reserve, and you examine it and find it in 92 per cent condition, only 8 per cent depreciated-

A. That is an entirely different proposition. What I am determining when I determine the per cent condition is the facts as I

find them when I make the inspection.

A. There are some things here that are elementary, but we have to go over them two or three times, I understand per cent condition means per cent condition, it don't mean anything else.

have got that. That is the trouble; you assume we have got a complicated thing here, and it requires a great many experts, but the fact is a great many things arise that the ordinary man can grasp.

Mr. D. A. Frank: You have confused age with life.

Mr. Howard: We can assume things once in a while, and that is what we are doing now. We are assuming that the age of this plant, as distinguished from its life, is five years, which would mean setting aside 35 per cent for depreciation, accrued depreciation.

Mr. D. A. Frank: There are two false things about your assump-One is, have you got any evidence the age is five years, and

the other is you have set aside 7 per cent for depreciation.

Mr. Howard: It may be my assumption is not correct, but I am assuming it for the purpose of illustration. That being done, we will now go on. We will assume that the age of the plant is five years, and you have fixed your depreciation per cent at 7 per cent, your annual depreciation.

A. Yes, sir.

Q. And 5 times 7 would be 35. Then at the end of five years you would have set aside 35 per cent. But you go out and examine the plant and you find that it is in 92 per cent condition. We have agreed what per cent condition means; that is, it is only worn out to the extent of 8 per cent, and that leaves a difference of 27 per cent between what has been set aside for depreciation and the actual per cent condition. When you find that sort of condition existing, would that suggest anything to you?

1075 A. They are entirely two different, separate propositions.

Q. Don't that suggest to you that when your depreciation reserve is out of proportion to your per cent condition, that either

of you set aside too much, or that there is some other element other than the per cent condition that you have got to provide for?

A. Maybe I can explain that-

Q. (Interrupting.) No; don't that suggest anything to you, Mr. Topping?

A. There is no comparison there at all; two entirely different things. For example, let me explain it: You have assumed that

the average life of the plant is five years-

Q. (Interrupting.) No, sir; Mr. Frank said age. I asked about the age of the plant, if it had been in existence for five years and no parts replaced-

Mr. D. A. Frank: Impossible on the face of it.

Q. Maybe so, but we will assume it.

A. The average age is five years. If I understand you, the

average age is five years-

Q. (Interrupting.) No, sir, the age. Not the average is no the "average." Come down to fundamentals. There is no out the "average." Come down to fraverage about it. The age is five years.

A. The annual rate of reserve is 7 per cent. That makes 35 per

cent, and included in that 35 per cent are such items as-Q. (Interrupting.) Inadequacy and obsolenscence?

A. Yes, sir, and all those things

Q. (Interrupting.) That is what I was leading you to. There is a disparity between your depreciation reserve and

the actual physical condition, per cent condition, and there are other things to be taken care of, inadequacy and obsolenscence. All right now. Then when you come to depreciate your plant, why do you apply only the per cent condition and do not apply this element of inadequacy and obsolenscence?

A. Because they have not happened.

Q. They are going to happen, because you set side this reservethat is all.

Redirect examination.

(Questions by Mr. J. D. Frank.)

Q. He said that you set aside 35 per cent for depreciation, and that the plant is five years old, and you find it is 92 per cent con-Now then, during that five years the plant may have been dition. replaced two or three times, may it not?

A. It may have been.

Q. May have been wiped out by fire or storm, or something of the king, and notwithstanding the fact that you have only 35 per cent in your reserve for depreciation?

A. Yes, sir.

Q. There is absolutely no relation between those two things at all?

A. There is no relation between per cent condition and annual

reserve for replacements.

Q. Let me ask you: Would there be any difference in the per cent condition of your property even though you haven't set aside anything for reserve for depreciation?

1077 A. No, sir.

Q. If you had been operating this plant here since 1888 down to the present time, and had not set aside one cent as reserve for depreciation, would that in any manner affect the present condition of the property?

A. It wouldn't affect the per cent condition at all.

Vol. II. TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES

OCTOPER TRAIL, 1081.

No. 219.

THE CITY OF HOUSTON, APPELLANT,

SOUTHWESTERN BELL TELEPHONE COMPANY

No. 220.

SOUTHWESTERN BELL TELEPHONE COMPANY, APPELLANT,

THE CITY OF HOUSTON ET AL.

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATE FOR

FILES PERSONALL 2, 1621.

(28,081)

(28,081)

(28,082)

SUPREME COURT OF THE UNITED STATES. OCTOBER TERM, 1921.

No. 219.

THE CITY OF HOUSTON, APPELLANT,

V8.

SOUTHWESTERN BELL TELEPHONE COMPANY.

No. 220.

SOUTHWESTERN BELL TELEPHONE COMPANY, APPELLANT,

V8.

THE CITY OF HOUSTON ET AL.

VOLUME II.

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

INDEX.

		Original.	L. Limi.
	W. O. Pennell	634	333
	Benjamin T. McBurney		389
	James T. Moran	788	413
	A. E. Scott (recalled)	. 808	422
	H. Blair-Smith	. 810	422
	Lamar Lyndon (recalled)	. 895	469
	J. C. Kelsey (recalled)	922	481
	F. M. Hoag (recalled)	. 1002	519
	H. P. Topping	. 1000	549
	George P. Player (recalled)	. 1078	559
	Charles A. Gates	. 1102	571



No. 108. Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY

versus

THE CITY OF HOUSTON et al.

Transcript of Record on Appeal from United States District Court, Southern District of Texas, Houston Division.

VOLUME II.

1078 George P. Player, a witness for the plaintiff, after being sworn, testified as follows:

Direct examination.

(Questions by Mr. J. D. Frank):

My name is George P. Player and I live in St. Louis, Missouri. My occupation is that of a telephone engineer, that is, telephone

Valuation Engineer.

I am a member of an Association that we term the Telephone and Electrical Service Bureau. We do all classes of appraisal work, supervision, construction, auditing,—anything relative to public utility work. That firm is located in St. Louis, Missouri. The position I occupy with that firm is that of Valuation Engineer. My work as a Valuation Engineer is not confined to telephone business;—we do all kinds, electric systems, water, gas, telephone and telegraph. I have had experience in the telegraph business.

I started into the telephone business in the fall of 1898 with the Kinloch Company of St. Louis. That Company is not an associated company of the Bell Company; that is an independent company. I

started in as ground man in a line gang. That work con1079 sisted of digging holes, holes, assisting in placing materials
along the different routes, pole lines, helping string wire,
everything connected with that part of the telephone work. I was
about six months in that class of work and at which time I received
a slight injury in lifting a wagon and had to quit the outside work
for a short period of time. I think about seven months elapsed
when I went back to work for the Company in the capacity of night
repair man at the main office switchboard. I remained on that
class of work repairing and testing, clearing trouble on the central
office equipment for about eight or nine months, or until the spring

of 1901; at that time I left the Kinloch Telephone Company and accepted the position of manager of the St. Charles, Missouri, Exchange, then under construction, and owned by the Kinlock Long Distance Telephone Company of Missouri. That Company was not the same as the Kinlock Telephone Company; had a different management, different board of directors, although some of the stockholders were the same,—the same people They were doing the same class of business, that is, operating local exchanges and building and operating long distance toll lines. I stayed at the St. Charles Exchange for a little over three years, or until 1904. In the three years,—over three years, that I was in St. Charles, I did everything connected with the telephone business, from night operating to construction work, keeping the books, collecting, building lines of all characters, installing telephones,—general work connected with the telephone business. In the spring of 1902,

the Kinlock Company was building its lines from St. Louis to Joplin, Missouri, and Pittsburg, Kansas, and I was made Assistant Superintendent of construction of that work. ber of men I had working under me on that work varied from 60 to 100, we were building a very high grade line, heavy poles, heavy construction was considered, and I believe is still considered, one of the best lines out of St. Louis. In 1904 the Kinlock Long Distance Telephone Company constructed a new long distance switch board in the Century Building, St. Louis, and I was placed in charge of the long distance operating and as Long Distance Wire Chief. That gave me supervision over the lines from St. Louis to Terre Haute, Indiana, St. Louis, nearly to Kansas City, where we had a junction pole connection with the Home Company and to Pittsburg, Kansas and Joplin, Missouri. I had 17 men under me at that time, stationed at various points along the lines for the purpose of maintenance and incidental construction work. In the spring of 1905 there was a consolidation between the Kinlock Telephone Company and the Kinlock Long Distance Telephone Company. It was deemed economical to consolidate some of the offices and the Company saw fit to make me manager of the St. Louis County Company. which was known as a Surburban Telephone Company and turned the local office work, testing and all that class of work over to the Wire Chief of the local company.

In St. Louis County there were two exchanges in opera1081 tion and it was necessary to begin rebuilding, rehabilitating
those properties at once, and also we begun the construction
of the two exchanges. One at Kirkwood and one at Webster. I
had general supervision of all the lay-out of the plants, both Webster and Kirkwood, fairly good sized exchanges. By lay-out I mean
supervision over construction and location of the central office and
placing of the central office equipment in general. I had general
supervision. I did not complete these installation-, however, because
at the end of the year, owing to a situation that arose at Greenville,
Illinois, where an independent company was sandwiched in between two Bell Exchanges, they wanted someone there to build up
the business and construct a plant, and I accepted the position of

General Manager of that Independent Company at Greenville. I stayed with that Company about a year and a half, built, oh, I guess, about thirty odd miles of line out through the country and several miles of line within the town limits, brought the Exchange up from one hundred and twenty five telephones, I think it was, to four hundred, and there I had the experience of doing all classes of telephone work. The position or the title of General Manager of that Company was title only. Because, I dug holes, climbed poles and laid conduit, dug manholes, and laid the brick, did all the work connected with that property and I had something like about fifteen men, ten men and five operators,—and after about a year and a half of that work, I decided that I would go into business for myself and open up an office as a consulting engineer and electrical constructor.

That was in the year 1907. As a contractor I wired houses for the electric lighting systems, made the installation of all of that kind of equipment and operating through Southern Illinois, giving advice and rendering service to Independent Telephone Companies. I had two or three nice little jobs, as the fellows called it in those days,—one at Carbondale, Illinois, and one at Marrisso, gen-

those days,—one at Carbondale, Illinois, and one at Marrisso, general supervision work, helping people out with their plants, and another one at Highland, Illinois, made an appraisal of that plant;

that was the first appraisal I ever made. It was a telephone plant. I do not remember exactly how many months I was in the contracting business. I stayed in the contract work until I worked myself out of a job. We wired every house that was to be wired in the town and woke one morning with the town completely wired, and no new buildings going up, and practically nothing to do. Just about that time, I received a letter from the Corporation Commission of the State of Oklahoma. They were desiring the services of a telephone engineer. It was called the Corporation Commission and did the work of a Public Service Commission and has jurisdiction over all classes of public utilities; I had some correspondence with that Commission, went down to see then at their instance, and at the instance of the State's Attorney General, I went to Madison, Wisconsin, was examined by Chairman Meyer of the Wisconsin Commission and their Engineers as to my ability to hold the

1083 position of Telephone Engineer for a Commission, and received from Chairman Meyer a very good letter; rather, it was sent to the Chairman of the Oklahoma Commission, and I received a copy of it, and they employed me, the Oklahoma Commission employed me as it'- engineer. In that position I had charge of the telephone department. The Oklahoma Commission had general supervision,—jurisdiction over all kinds of Public Service Corporations within the State, both companies that were operating wholly within the State or that were termed Inter-State. There were several of those Companies, such as the Western Union, the Postal, and Pioneer Telegraph and Telephone Company, that is, of the wires. I remained with that Commission five years and a half in the same position as Telephone and Telegraph Engineer, at which time I accepted a similar position with the Missouri Public Service

Commission. The Oklahoma Commission was a newly created body that had just started. The Constitution of that State had just been ratified and the Commission was a Constitutional Body, that is, it was put into office through the Constitution, I had charge of the Telephone and Telegraph Department, as I stated above, and there investigated the rates, charges, rules and regulations of all companies within the State of Oklahoma. The Pioneer Telephone Company was the largest individual Company. It had, I believe, 117 different exchanges within the State's toll lines, connecting all those exchanges, the largest exchange being the one at Oklahoma City, and there was Muskogee, Tulsa, Bartlettsville, Guthrie and towns of smaller size. Enid should have been said in there, because

1084 the first question that that come up in regard to rate matters was in the Enid Exchange. I took an actual field inventory of that property, made an appraisal out of which grew the celebrated case of Westonhaver vs. the State of Oklahoma Public Service Commission. During the five years I was connected with this Oklahoma Public Service Commission, I was engaged in such work as making and checking inventories and making appraisals of telephone properties through the State,-I made something like thirty or forty actual field inventories of different properties. The property at Enid, property at McAlester, Guthrie and Ada. One or two others that I can't recall now of the Pioneer Company and several Independent Companies. I also got up a system of reports or rather the Commission got up an order requiring the Companies to submit to it valuations of their properties, complete reports on a form prescribed by the Commission. Now, I got up those forms, and they were sent out to the Companies and they submitted to the Commission an actual appraisal inventory of all their properties. There were thirteen hundred off Independent Companies in the State of Oklahoma, and the 117 Bell Exchanges, and in the five and a half years that I was there I checked practically all of those Companies through their The total valuation of those Companies would be in the neighborhood of twenty-five millions of dollars' worth of property, that is, all telephone property.

I accepted the position of Engineer, Telephone and Telegraph Engineer for the Missouri Commission in March 1914. That was strictly engineering problems. That Commission had only 1085 recently been established by the passage of the law in 1913

and the first case that they had of any moment was the St. Louis Bell Telephone Case. They wanted an engineer to make an appraisal of the plant in St. Louis and selected me to do that work. That was about a nine million dollar property. I made an appraisal of that property had two assistant engineers and a clerical force with me on that work. In addition to that property there were numerous other properties to be valued such as the Springfield, Missouri, Exchange, which was quite a large exchange, and ran over a million dollars,—property at Kirksville, Marshall and St. Joseph and several others that I can't recall right now, ranging in size from \$50,000.00 up to half a million dollars in size. Also Fulton, I remember. I occupied that position from March 1914 until October 1918 and dur-

ing all the time that I was connected with the Commission I was engaged in appraisal work, engineering work, for two years until 1916, at which time the Commission made me Chief of the Telephone and Telegraph Department. I had then a similar position that I did with the Oklahoma Commission, that is, the direct supervision of all rates, rules and regulations of the various telephone and telegraph companies under the supervision of the Commission.

I left that Commission in October 1918 to fight Germany. I went into the Army and I was in the Army about eleven months in the

Signal Corps branch of the service. I accepted a Commission of First Lieutenant. That was the 27th day of September, 1918. I had previously been offered a higher commission, but at the time it was offered I could not leave the Commission. I had several cases on hand that had to be completed and so I turned it down. The commission I turned down was that of Major in the

Signal Corps.

I got to France, let's see, 25 days after I was commissioned. I did not go to the training camps, having had previous military experience and was stationed first at St. Nazarre in charge of telephone and telegraph operations at Base Section No. 1. I stayed there, I think, from the 4th or 5th of October,-of November, until the 24th of November, when I was sent to Tours, the general headquarters of Service and Supply. I was placed in charge of the telephone and telegraph operations at that General Headquarters, having 35 operators,—American girl operators and a service company of six hundred men under my supervision. I had supervision of all of the telephone and telegraph operations. I constructed and maintained telephone lines and such as that,-that was part of my work. I had about 180 telegraph operators. I had about seventy line men, repair men, and the balance of the men were all classes and general utility men, such as cooks, etc. that go to make up a company in the Army. mained as Lieutenant until May of 1919 and was then made captain. At that time I was signal officer of the District which is known as the That would be the District of Tours. Arrondissement of Tours. That extended from Orleans or as it is regularly pronounced Orleans to Tours and to Nantes on the west and embraced an area of approximately 75 square miles.

1087 My position was that of Signal Officer and was practically the same class of work I had been doing. I had charge of telephone and telegraph lines and so on and that position gave me

entire charge of the District.

When I got back from France, I resumed my duties with the Missouri Public Service Commission. Things were not as I would liked them to have been at that time, so I decided to go into business for myself and resigned from that Commission the first of October 1919. I then started into this work as Valuation Engineer. While I was with the Army cannot be counted, so I was with the State Commission ten years,—State Public Service Commissions of Oklahoma and Missouri. In that position I had occasion to appear frequently in rate cases; I think I have appeared in over a hundred rate cases before both Commissions.

It would be pretty hard to say how many telephone properties I have made appraisals of during the length of time that I was connected with these Commissions. I have previously stated that there were thirteen hundred odd Independent Companies in the State of Oklahoma, that I checked the property value of their reports submitted; and one hundred and seventeen Pioneer Exchanges; about eight or nine of those I took actual field inventories of and made the actual appraisal of and then with the Missouri Commission an appraisal of a St. Louis plant, Springfield, Fulton, Marshall, Carruthersville.

1088 In estimating the value of the property which I appraised while I was connected with these Commissions. I want to include in that three other appraisals I assisted in. One was the Kansas City Electric Light and Power Company, a property of about seven and a half million dollars; I appraised all the underground and pole line system of that company; also, the St. Louis County Water Company; that was about a million and a half dollar company, and the Sedalia Water Company, a smaller company of about half a million dollars, and also made an appraisal of the Home Telephone Company of Joplin, Missouri, which I took a field inventory of and made an appraisal. That was a plant of about \$600,000.00 and I should judge that in actual appraisal work that I have appraised something like thirty millions of dollars worth of telephone property, and of electric light, water, gas and other telephone properties, and have either taken part in appraisals or checked the appraisals of twenty millions of dollars-about fifty millions of dollars in property. I guess.

Mr. J. D. Frank: As touching upon the qualifications of Mr. Player, I would like to read a couple of extracts from the decision of the Supreme Court of Oklahoma, in the case of the Pioneer Telephone & Telegraph Company vs. Westenhaver,—reported in the 33rd Oklahoma Reports, at page 226; 99 Pacific Reporter, page 1019. Mr. Player made the appraisal in that case and in one place the Supreme Court says:

1089 "The estimates of Mr. Player have generally been adopted by all the parties to this proceeding and we are not disposed to reject his estimate of the cost of reconstruction exclusive of the expense of piece meal construction working capital of old plant and interest in investment during construction."

In another place the Court says:

"Mr. Player, the telephone expert of the Commission, who throughout the proceeding has demonstrated himself to be proficient in telephone construction and operation and whose fairness is attested by the fact that his opinion and estimate, wherever the same were given, were adopted by all parties, did not testify on this question and was not questioned relative thereto."

The Court was speaking of depreciation there.

On the basis of my appraisal I have made an estimate of the an-

nual reserve for replacements which should be set aside to take care of those matters and that is shown on page 54. The only explanation that I can see necessary for this table is the fact that we have in the first column the depreciable property, physical plant in place representing an amount of four million seven hundred and twentyone thousand, four hundred fifty-nine dollars; that is the average composite life of the various classes of plants shown in the

table, which are sixteen, is 15-55 years; that it will require 1090 the amount of \$303,627.00 per annum to keep that property at its value of one hundred cents on the dollar or 6.43 per cent of

the depreciable property.

The per cent of salvage as shown opposite the items is the estimated amount of money, or per cent of money, being shown in column three, that you would be able to secure out of any class of this plant if it were sold for junk. The wearing value in column four would be the expectancy of duration, the wearing value or service giving value of each part of the plant, the salvage or junk amount having been deducted. Now, in column five we have estimated life in years of each class of property. The buildings, that is the first item of buildings, steel and concrete construction would have a life of 50 years, it is estimated,-in the next column we would have the number of times in 50 years it would be necessary to renew one of these buildings, which would be one time, or a total expenditure in 50 years of \$539,114—the same is true of all the other items of plant, showing the life, estimated life and the number of times each class of plant would have to be renewed during the estimated life of the property on the basis of the 50 year period. We get in column seven, the total expenditure, that is the next to the last column, the total expenditure which would be necessary in this plant should each part of the plant be renewed the number of times as shown in the preceeding column, column six is a total of of

\$12,813,594.00. In order to make that a comparable statement, and put all of the classes of plants on the basis of the 50 year period we then have the last column which represents the dollars years; that would reflect the composite expenditure in 50 years of all the class of plant; that would represent a figure of \$199,353,390.00, which divided by the figure of column 7, that is the total \$12,813,594.00 would give us the composite life of the That is what I was working up to. entire property of 15.55 years. You could work this out in percentage; some engineers do that and say that aerial property-your subscribers equipment is so much, your cable is so much per cent; I have used this method for several years in all of my cases and I duplicated it in this case. There is nothing catchy in it; it is a mere estimate of the composite life of the property as a whole.

Q. Well, what is the annual reserve for replacements designed to cover? I know you say that it is to take care of lessening in value of the property, or to keep it up to one hundred cents on the dollar. Mention some of the things which causes your property to lessen in value and which renders it necessary for you to set aside a reserve of

this kind.

A. Replacements of pole line or other equipment destroyed by storms or fires. We have a good example of the expenditure that was necessitated down here at Corpus Christi a short time ago, and Galveston a few years ago, and then a few years previous to that when

the whole town was practically wiped out.

1092 I knew that the storm of 1915 occurred in Houston. was the storm that was prevalent all over the west and I understand you had a big storm here and throughout west Texas that destroyed a great deal of property, and into this comes the obsolescence of certain classes of equipment of the plant.

Cross-examination.

(Questions by Mr. Howard:)

Q. Mr. Player, do you—this figure of \$12,813,594.00, I believe is the total amount of money you estimate will be spent in 50 years for the purpose of replacing the plant and keeping it up?

A. Yes, sir, on the basis of the estimated life, and the number of times each class of plants would be renewed using as a basis the 50 year life of the building, and the years' life period of the plant.

Q. Now, to get the expenditure, average expenditure, for one

year, you would divide that by 50?

A. No, sir.

Mr. J. D. Frank: I raised that same question.

A. I had a hard time explaining that to Mr. Frank the other day.

(By Mr. Howard:)

1093 Q. Al-right. Let's hear that if there is anything that Mr. Frank does not under-atdnd.

A. No, sir, it would not reflect it to take any individual item there and divide it and take one fiftieth of it, which you have in mind-

Why wouldn't it? Mr. J. D. Frank: (Interrupting.)

A. Because, you wouldn't have the composite life of the plant represented in anyone individual item in order to make this comparable.

(By Mr. Howard:)

Q. But when you replace it several times that equalizes that fact

that the individual part of the plant ain't the same?

A. Yes, sir, but to get the composite figure with all the different parts of the plant, you bring it into a composite figure, the total of which would represent a one-fiftieth part which in this case is the total of Column 7, divided into the total of column 8, and would give you the 15.55.

Mr. J. D. Frank: If you didn't do that you would give undue

weight to certain parts of the plant?

A. You give undue weight to a certain part of the plant—to certain parts of the plant.

(By Mr. Howard:)

Q. Because they are replaced one time and some of them three or four times?

A. Some are replaced as many as ten times.

Q. But your total expenditure in 50 years, you have by 1094 replacing them several times as was done here, doesn't that have the effect of equalizing those different parts of the plant?

A. No, sir, not until you carry it further and carry each one of the items and multiply it by the average life in order to make it com-

parable with the 50 year life.

Q. Now, then, Mr. Player, how do you arrive as to the annuity

that should be kept up for those parts, how do you get them?

A. You find the life in years which is 15.55 years, you divide your first column on the page the amount of depreciable property \$4,721,459.00 by 15.55, which will give you \$303,627.00 or what per cent that bears to the total.

Q. But the average life of—the average composite life-

A. (Interrupting.) Average composite life.

Q. Is the average life?

A. Yes. sir.

Q. Is fifteen years,—and you divide the total value of the plant undepreciated by that to get your annual annuity?

A. Yes, sir, which is the percentage and would be 6.43 per cent. Q. \$303,627.00 then, is 63 per cent, is it, have you verified that?

A. 6.43 per cent.

Q. Of the depreciable items that is correct?

A. Yes, sir, you can apply that percentage on items already depreciated.

1095 Q. Well, I understand, what you deduct then is the depreciated annuity 6.4 plus is what you deduct as annuity per cent?

A. Yes, 6.43, yes, sir.

Mr. Howard: I believe that is all, but I stillt think there is some doubt about the other;-it may be right.

Mr. George P. Player, a witness for Plaintiff testified as 1096 follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. Now, have you made an estimate of the annual reserve for replacements which should be set aside to take care of those matters?

A. On the basis of my appraisal, yes, sir. Q. That is shown on page 54, is it?

Q. Will you take up that page and explain it to us?

A. The only explanation that I can see necessary for this table is the fact that we have in the first column the depreciable property, physical plant in place representing an amount of four million seven hundred and twenty-one thousand, four hundred fifty-nine dollars; that is the average composite life of the various classes of plants shown in the table, which are sixteen, is 15.55 years; that it will require the amount of \$303,627 per annum to keep that property at its value of one hundred cents on the dollar, or 6.43 per cent of the depreciable property.

Q. Well, now, I wish you would explain that to us a little more in detail. You have, for instance, a column of per cent of salvage, net salvage value, then wearing value etc. Go ahead and explain that

to us?

A. The per cent of salvage as shown opposite the items is 1097 the estimated amount of money, or per cent of money, being shown in column three, that you would be able to secure out of my class of this plant if it were sold for junk. The wearing value in column four would be the expectancy of duration, the wearing value or service giving value of each part of the plant, the salvage or junk amount having been deducted. Now, in column five we have the estimated life in years of each class of property. The buildings, that is the first item of buildings, steel and concrete construction would have a life of 50 years, it is estimated. In the next column we would have the number of times in 50 years it would be necessary to renew one of these buildings, which would be one time, or a total expenditure in 50 years of \$539,114. The same is true of all the other items of plant, showing the life, estimated life and the number of times each class of plant would have to be renewed during the estimated life of the property on the basis of the 50 year period. We get in column seven, the total expenditure, that is the next to the last column, the total expenditure which would be necessary in this plant should each part of the plant be renewed the number of times as shown in the proceeding column, column six is a total of \$12,813,-594.00. In order to make that a comparable statement, and put all of the classes of plants on the basis of the 50 year period we then have the last column which represents the dollars years; that would reflect the composite expenditure in 50 years of all the class of plant; that would represent a figure of \$199,353,390.00, which divided by the figure of column 7, that is the total, \$12,813,-

1098 594.00 would give us the composite life of the entire property of 15.55 years.

Q. That was what you were working up to find out?

A. That is what I was working up to. You would work this out in percentage; some engineers do that and say that aerial property—your subscribers' equipment is so much, your cable is so much percent; I have used this method for several years in all of my cases and I duplicated it in this case. There is nothing catchy in it; it is a mere estimate of the composite life of the property as a whole.

Q. Well, what is the annual reserve for replacements, designed to cover? I know you say that it is to take care of lessening in value of the property, or to keep it up to one hundred cents on the dollar. Mention some of the things which causes your property to lessen in value and which renders it necessary for you to set aside a reserve

of this kind?

A. Replacements of pole line or other equipment destroyed by storms or fires. We have a good example of the expenditure that was necessitated down here at Corpus Christi a short time ago, and Galveston a few years ago, and then a few years previous to that when the whole town was practically wiped out.

Q. The storm of 1915 in Houston, do you know anything about

that?

A. Yes, I knew that occurred. That was the storm that was prevalent all over the west and I understand you had a big storm here and throughout west Texas that destroyed a great deal of property, and into this comes the obsolescence of certain classes of equipment of the plant.

Mr. Howard: Mr. Frank, that thing has gone into the record several times.

Mr. J. D. Frank: I thought if I did not bring it out you would think he did not know anything about this.

Mr. Howard: I would not carry my suggestion that for.

Mr. Frank: I have no more questions to ask Mr. Player.

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Player, do you—— This figure of \$12,813,594, I believe is the total amount of money you estimate will be spent in 50 years for the purpose of replacing the plant and keeping it up?

A. Yes, sir, on the basis of the estimated life, and the number of times each class of plants would be renewed using as a basis the 50 year life of the building, and the years' life period of the plant.

Q. Now, to get the expenditure, average expenditure for one year, you would divide that by 50?

A. No, sir.

Mr. J. D. Frank: I raised that same question.

A. I — hard time explaining that to Mr. Frank the other day.

(By Mr. Howard:)

Q. All right. Let's hear that if there is anything that Mr. Frank does not understand?

A. No, sir, it would not reflect it to take any individual item there and divide it and take one fiftieth of it, which you have in mind——

Mr. J. D. Frank (Interrupting:) Why wouldn't it?

A. Because you wouldn't have the composite life of the plant represented in any one individual item in order to make this comparable,

(By Mr. Howard:)

Q. But when you replace it several times that equalizes that fact

that the individual part of the plant ain't the same?

A. Yes, sir, but to get the composite figure with all the different parts of the plant, you bring it into a composite figure, the total of which would represent a one-fiftieth part which in this case is the total of column 7 divided into the total of column 8, and would give you the 15.55.

Mr. J. D. Frank: If you didn't do that you would give undue weight to certain parts of the plant?

(By Mr. Howard:)

Q. Because — are replaced one time, and some three or four times?

A. Some are replaced as many as ten times.

Q. But your total expenditure in 50 years, you have by replacing them several times as was done here, doesn't that have the effect of equalizing those different parts of the plant?

A. No, sir, not until you carry it further and carry each one of the items and multiply it by the average life in order to make it

comparable with the 50 year life.

Q. Now, then, Mr. Player, how do you arrive as to the annuity that should be kept up for those parts, how do you get them?

1101 A. You find the life in years which is 15.55 years; you divide your first column on the page the amount of depreciable property \$4,721,459.00 by 15.55, which will give you \$303,627.00 or what per cent that bears to the total.

Q. But the average life of, -the average composite life-

A. (Interrupting.) Average composite life.

Q. Is the average life?

A. Yes, sir.

Q. Is fifteen years, and you divide the total value of the plant undepreciated by that to get your annual annuity?

A. Yes, sir, which is the percentage and would be 6.43 per cent.
Q. \$303,627.00 then is 63 per cent, is it, have you verified that?

A. 6.43 per cent.

Q. Of the depreciable items that is correct.

A. Yes, sir, you can apply that percentage on items already depreciated.

Q. Well, I understand, what you deduct then is the depreciated annuity 6.4 plus is what you deduct as annuity per cent?

A. Yes, 6.43; yes sir.

Mr. Howard: I believe that is all, but I still think there is some doubt about the other; it may be right.

Mr. Charles A. Gates, a witness for plaintiff, testified as follows:

Redirect examination.

Questions by Mr. J. D. Frank:

Q. Now, Mr. Gates, there is one other matter that I want to cover with you. Have you worked out the necessary amount of money that has to be set aside to take care of your Annual Reserve for Replacements?

A. I worked out the percentage that would be required, the plant

value-

Q. What page is that on?

A. On page 251.

Q. That is page 251 of your appraisal, is it?

A. Yes, sir.

Q. All right, will you take that up and explain it to us now?

A. In the first column appears a list of the different kinds of property in the plant. In the next column is the Annual Rate of Reserve necessary to protect that property, as for instance, in the case of buildings, $2\frac{1}{2}\%$. In the next column is the per cent of the total reproduction cost that that class of plant bears to the total physical property. In the case of buildings, they represent 10.72% of the total plant, $2\frac{1}{2}\%$ multiplied by 10.72% gives us the Annual Rate of Reserve, the equated annual rate of reserve, which is shown in the third column and that in the case of buildings amounts to .268 of one per cent and the same plan is carried out for each part of

one per cent and the same plan is carried out for each part of plant and the total equated annual rate of reserve is shown at the bottom of the third column and it amounts to 6.267.

Q. Now, that is Six and-

A. 6.367%.

Q. That is of the total physical property?

A. Of the total physical property.

Q. Why is it necessary to have a reserve of this kind, Mr. Gates?

In a few words, tell us what it covers.

A. It covers the decay, rot, rust and decay of the property, obsolescence, inadequacy, storm damage, fire damage, in fact, in a nutshell it is reserved to replace your plant when it becomes necessary to do so for any cause whatever.

1104 Direct examination.

Questions by Mr. Howard:

Q. Now, Mr. Kelsey that brings us to the matter or reserve for depreciation, change in Art, etc. How did you arrive at the deduction?

A. I have written here a little analysis of it for the sake of brevity.

Could I read that into the record. I would prefer to. Q. Yes, it might be safer than to testify to it.

Mr. D. A. Frank: What page are you reading from?

A. The bottom of page 2. "Item 2 is the depreciation figure allowable to the Houston District—it covers both local and toll conditions chargeable to Houston—it is \$146,120.

We all know the depreciation exists. We know that there are things which human ingenuity cannot maintain and which will

have to be given up.

The telephone business is nearly forty years old, and has grown from a few select subscribers to 12,000,000 subscribers in our country alone, and it has encountered all the pangs of growth and

1105 birth, and all the forces of nature as well.

We have had inventions, storms, fires, floods, and quakes,

and the business goes on constantly autmenting itself.

Like Insurance Companies, which can ever calculate the exact life of a man, the number of accidents or fires he will have, telephone companies have every reason to be satisfied that the experience of forty years will give the best predication of the future.

We can conceive of a change in a switchboard, of an alteration of a building, but no threatened change of telephone practise in our lives affects the more expensive parts of a telephone system, such as

real estate, ducts, cables, wire and poles.

Telephone companies larger than Houston have already made the

radical changes to the automatic system.

Counting up every change in the art, every fire, flood, cyclone and earthquake, and counting up every telephone in use since 1880, it is found that the total average cost of maintaining a telephone system, both local and long distance, in its present highly efficient condition,

has averaged \$11.00 per telephone station year.

A study of the maintenance of the highly efficient Houston system shows an average cost of \$5.38 per telephone station

It is obvious that since 40 years' experience has shown that \$11.00 per station year has kept up every telephone in America all those years, the Houston telephone property and toll property chargeable to it can be given as a maximum the difference between \$11.00 per station year and \$5.38, or \$5.62.

As there was an average of 26,000 stations in Houston used by local and toll users, the maximum depreciation reserve chargeable to

Houston subscribers would be \$146,120.00.

One of the best examples of a proper reserve charge has been shown by the Keystone Telephone Company of Philadelphia, serving over 30,000 users. In 1905 it was decided to adopt the difference between \$11.00 per year, and the actual cost of current, maintenance, and reconstruction of \$7.00, and put \$4.00 per station year into a reserve fund, and credit it with prevailing interest rates.

Last year, the Company decided to change to automatic 1107 telephone service, and it is a matter of interest to say that the company has enough reserve money to pay all charges and have some left. It must be remembered that a reserve fund cannot cover all expense of a new system, because some of the new work is chargeable to capital account. Houston is in a country which has milder weather and the troubles of Northern weather are unknown.

A reserve of \$5.62 is certainly a maximum load to be carried by the

Houston subscribers.

Getting back to the telephone situation as a whole, the whole Bell Telephone System has a reserve of \$300,000,000 on a \$1,000,000,000 property, which has been set by charges of less than \$3.00 per station, and that included tolls, buildings, local plants and all.

Experience alone is the great teacher, and we know that the gift of prophecy died out centuries ago. Why not give Houston the benefit of experience and not impose upon it the guess work of

prophecy.

There are further considerations of depreciation. If the Company insists upon confining itself to reproduction new theory, and prac-

tically taking a profit of \$4,000,000.00 out of Houston, it is doubtful whether Houston subscribers owe them or should owe them any money for the wear and tear of their proper-

ties in the future.

This profit of \$4,000,000 will take care of all losses for years to come, especially, since the Houston Company has been in existence some 30 years, and their property is in a 93% state of perfection according to their engineers.

All that imagination can picture is that Houston subscribers really

owe the company for that 7% loss and no more.

In other words, capitalistic practise limits the reserve at \$280,-: 000.00 at this time. But the Company has claimed a loss of \$1,374,-249.00 for the past four years and has especially asked for \$359,999.00 for 1919. If this rate is kept up it is and will be more so a situation which reminds one of eating his cake and having it too.

And if Houston were a decadent city, such an attempt would be justifiable. But Houston and Houston people are rated AA-1.

Mr. D. A. Frank: That is 1-A higher than you rated Cleveland? A. I don't know how that got in there.

Mr. D. A. Frank: I understood you rated Cleveland A-1, can you make the same statement there?

A. Not this statement. "This naturally leads to the question of the fairness of making an AA-1 customer pay in full and in advance. I can conceive of asking an AA-1 customer to pay something down, but all in advance for something which he may or may not get is a little bit dubious.

It is unreasonable to conceive of a situation whereby the Company having incurred a real expense, can go before Court or council with a bill of particulars and agree at once on an amortization plan.

We have another war, but a sale of bonds based on that war would not be successful. We are paying for the last war, and know it.

A public utility, having a constitutional guar-ntee, which asks everything in advance, shows little faith in the Government."

I think that last is a little bit raw.

Mr. D. A. Frank: Who guarantees that?

A. It is constitutional.

Q. Guaranteed? 1110

A. Guar-nteed that you can ask for it and get it. If you don't, you fall.

Q. Now, you have determined the rate of depreciation, I don't know whether you call it a rate, but it is largely upon the past experience and actual knowledge of depreciation based upon telephones all over this country which you find to be about \$11.00, which bears maintenance and annuity for amort-ing the plant?

A. By making a study of this ever since 1905.

Q. It has been suggested here some time or another, that there are certain elements of this plant, that the affects of this climate cause the wire to corrode, or the insulation to come off. Assuming that as a fact, are there any compensating—are there any troubles that are distinctly peculiar in the Northern climate?

A. No.

Q. How does that it affect it?

A. Uplifting of line. We have a record of the exact expense of handling all those.

Q. You have?

A. Yes, sir, in this report, it is right here, the cost of maintaining and keeping these properties.

Q. Have you ever made a study of the rate of depreciation that should apply to the different parts of the plant?

A. I never have.

Q. This was based entirely on the number of telephones and the amount per station that experience has shown to be required?

A. Finance and investment practically insists upon experience

rather than prediction.

Q. If it is suggested to you that there are various conditions throughout the country and a thing might—an amount to keep up a plant in Canada might be entirely inadequate for this part of the country, had you given that matter any consideration?

A. Not in this case. But that has been taken into consideration. Every flood, every fire, every casualty known in the telephone business that has taken place in the last 40 years, and we predicate this

experience on that.

Q. Is there anything about the climate—you are familiar with this southern climate?

A. Not very much, no sir.

Q. A good deal of rainfal-, and a good deal of heat, would that make any radical change in this question of depreciation?

A. No sir, not radical.

Q. Mr. Kelsey, how would the higher prices, when you 1112 compute that upon the basis of telephones or per station, and

not upon a percentage basis, how would the advance in the prices of material be provided for and taken into consideration in setting aside this reserve—in other words this reserve isn't spent today or tomorrow?

A. It is here until needed. I have every reason to believe that as we grow older we put more of our property under ground. We know more about the business and protect it better. We know more about lights and have to contend with the forces of nature and I think it is entirely offset by these advanced years.

Q. The high cost of material and labor might add a direct bear-

ing upon the maintenance, annual maintenance of a plant, as provided under the Rules of the Interstate Commerce Commission, which might be in 1919 than in 1914 on account of the high prices?

A. Yes sir. 1919 with all these high prices shows \$5.38. Q. But 1919 \$5.38 is based upon the prices of that year?

A. Yes sir.

Q. And that to your mind evidences the fact that this difference between that and \$11.00 would also be sufficient to take care of the reserve even considering the high prices?

A. That would satisfy me and my client the banker who looks

upon this property from that standpoint.

Q. If prices again go to normal or pre-war prices or ap-1113 proach to that extent then there would be really less required for the maintenance of this plant and also less in the annual annuity reserve?

A. The lower the maintenance goes, the higher this reserve would

Q. Speaking from the physical standpoint?

A. Yes sir.

Q. But I am speaking from cost. If the price of 1919 drops down to approach the prices, the pre-war level, a drop from that would not effect the amount of the annuity reserve?

A. It would increase it. The lower your maintenance expense,

the higher your reserve is.

Q. Let me see, I think you and I are a little confused about this.

Mr. D. A. Frank: You are confused, Mr. Howard. I think Mr. Kelsey is clear.

Mr. Howard: I am going to find out about it. Mr. D. A. Frank: I think it is as clear as a bell.

Q. I think he is on both things myself. Here is the idea. I have never talked to you about it and I don't know, but it occurs to me that this rate is set up in 1919 as the actual maintenance cost, that is not a theory, it is cost?

A. Absolutely cost.

Q. Then prices of maintenance, material and labor go down next year and the plant is kept up just as well physically next year, it will cost them less to keep the plant up in as good physical condition?

A. Yes sir, that is right.

Q. The fact that they pay less next year for keeping this plant up, well maintained, as well as they have done it this year, why would that have any effect or tend to increase the annuity reserve?

A. Because we are basing our whole proposition on the fact-Q. (Interrupting.) Going to allow—you are going to allow that \$11.00.

A. Yes sir, until we know better.

Q. What you mean is they would realize a greater depreciation

reserve whether they would actually need it or not?

A. Yes sir, when these prices go down, the reserve goes up. It is all a matter of computation. We have studied it, not to fool our-

selves. I put that plant in in 1905, and put the securities with innocent purchasers in Holland, and we have a reputation to sustain, and we decided that the difference-

1115 Mr. D. A. Frank: Did you say ever since-Mr. Howard: Let's cut that out, just proceed, Mr. Kelsey.

A. We had our reputation to sustain and we decided that the difference was a safety factor. It has proven so, and the fifteen years have gone by and they have made this radical change, they have put in the automatic and they have got the money.

Q. And that rule has actually held through 40 years?
A. Yes sir, that \$11.00 rule. That is a matter of computation. In our study of this thing to be sure of putting into this property I spent a great many weeks studying that thing, as to what that reserve should be.

Q. From your experience as a practical telephone man and from your knowledge of this subject, I ask you what your opinion is of this amount that this company set up here for this annual deprecia-

A. I think it is enough to protect it.

Q. I am talking about the amount the company set up?

A. About what they set up?

Q. Yes sir?

A. That is too much. Q. It is excessive?

A. Excessive.

Q. To what extent?

A. If carried on it would soon amortize the property. Q. And is excessive over and above this figure you gave 1116 here?

A. Yes sir.

Q. You spoke of the Keystone Company of Philadelphia. Is that a strictly conduit system?

A. Not altogether, I should say about 85%.

Q. What would you call this system here, a heavily conduited system or just slightly?

A. This is a typical well preserved property, and I wouldn't say exactly. That is a matter of computation.

Q. A matter of computation?

A. Yes sir, but from what I have seen it is a nice property.

Mr. D. A. Frank: Have you seen it.

A. Yes sir, I have driven over it and looked at it as near as I could without breaking into your building.

Mr. D. A. Frank: We have invited you.

A. I didn't, because I know what is in there. I have installed them.

Q. There is a great deal of conduit in this city? A. Yes sir.

Q. There is a considerable amount of Aerial cable in the Keystone plant?

A. Yes sir, quite a little.

Q. Does it serve any part of the city of Philadelphia out-1117 side of the business district?

A. Yes sir, up to Germantown and Chester and places like

that, Camden.

Q. What has been the experience there on this \$11.00 per station for annuity and maintenance?

Mr. D. A. Frank: He has told that two or three times.

Q. I want to know?

A. At that time we found with the current maintenance of that property it averaged about \$4.00 per year, and they have what they call current reconstruction. The total was \$7.00—

Q. (Interrupting.) I understand. What result would they get,

how much money would they get in that reserve?

A. They have been putting that money out at 6%, loaning it themselves, and for a while they bought their own company bonds. They were 5% bonds. I haven't been down there for two years to know what the reserve amounts to, but that could be determined from their annual report, but I understand it is sufficient to take care of the property.

Q. Have you had any observation, or experience or knowledge of any other company that set up their depreciation upon that

basis?

1118 A. In every property I deal with I put them on that basis.
I put the North Dakota Independent Telephone Company
on that basis in 1906.

Q. How did that work out?

A. At that time the maintenance was about \$4.50. Their reconstruction—we had \$1.00 per year per station for sleet, which in the six years—we had \$3.00 for current reconstruction reserve. The difference between that \$11.00 was in cash which invested in securities and as the years went on that Company was absorbed by the Bell Telephone Company and of course since 1910 they naturally don't let me patrol it as I did for four years.

Q. How does a telephone property, such as this, from the standpoint of deterioration compare with any other public utilities?

A. About the same, pretty nearly all the telephone companies

are in a condition of 90% good. They have to be.

Q. You didn't get my question. I asked you how it compared with other utilities such as street car companies, traction companies and gas companies, have you ever made any comparison as to those things?

A. Not for a great many years. The telephone business usually

is in a class by itself.

Q. Is it very easily destructible property?

A. The telephone property is made up of a great deal of stable material, steel and german silver, oak, mahogany, plati-

num. The platinum that was used over this plant probably cost \$10.00 per ounce, and the Bell Company has been very liberal with platinum, and today it is worth \$130.00 an ounce. There is leather in these boards, and there is silk.

Q. Do those things deteriorate rapidly?

A. No sir, they do not. There is not so much deterioration. Q. Is very much deterioration in underground conduit?

A. Literally none.

Q. Almost none in a well constructed building like this Preston plant over here?

A. That should be a monument to life for one hundred years.

Q. So getting down to these facts of depreciation, it is a small item as compared with the set up of 6% or 7% for depreciation?

A. In that 6% assumption, they assume the property will die. The telephone business is an immortal business. The manager may die and the superintendent may die, but one hundred years from now, there will be a telephone building devoted to the telephone service and there will be poles holding these cabls at certain places.

Q. But poles do wear out?

A. Yes sir, but they will be replaced, and they have been replac-

ing them for 40 years.

1120 Q. That is what I want to get at. When we speak of depreciation as I understand it, if a pole wears out you have got a fund to take care of that pole?

A. Yes sir.

Q. I am just trying to see that our minds run together all the way along here. I can understand, for instance, if you put a conduit in the ground here it will last, like perhaps back in Rome and Egypt they were put in the ground and they are there yet in good condition, and you put them in the ground here and they will stay there and not deteriorate at all. That is one thing I can see where there would be no deterioration and any that would be attached to it would be largely imaginary and has been so done for the purpost of rate — going into something for good measure and that sort of thing, but when we come to poles, poles do wear out?

A. Yes, sir.

Q. There has to be some sort of depreciation allowed for those things, to replace them when they wear out?

A. That is taken care of currently.

Q. What I am getting at is there are parts of this plant that are practically permanent and indestructible, and there are some parts that are somewhat rapid in deterioration. You wouldn't mention poles and conduit in that class?

1121 A. No sir. I dug up poles in Duluth that were put in 22

years ago and they were yet in perfect condition.

Q. Good experts for rate hearing and telephone owners can build up a nice little theory that a pole life is about six to ten years, can't they, and get about 20% annual depreciation?

A. And they can probably prove that some poles last ten years. One may break tomorrow. It is our experience that they do break

Q. Those percentages are largely estimates and uncertain quantities, but when you get right down to the actual deterioration for rot and decay there is very little of it there as compared with these percentages that are built up?

A. An estimate based on percentage is wrong because it is as-

sumed the property is going to die. This property is immortal. As long as the people maintain the property there will always be a telephone property and it will be repaired and replaced as years go by.

Q. There are some things that happen, but not nearly so much as

they can imagine?

A. My argument is entirely this that things have happened in the telephone business for 40 years. We have been in business for 40 years and have learned all those things.

Q. And you say this small depreciation in your judgment. and from your experience, based upon your experience is ample to take care of those troubles?

A. This is no small depreciation; it is large and a good one.

Q. I mean that relatively speaking of course?

A. I consider that a rather vigorous depreciation.

Cross-examination.

Questions by Mr. D. A. Frank:

Q. You are one of the owners of the Keystone Company?

A. Yes sir.

Q. You are a stockholder? A. Yes sir.

Q. The stockholders are the owers?

A. Yes sir, they ought to be. No, stockholders are not much owners as we found out in the Bell Telephone Company, for in-

Q. You are familiar with your investment in the Keystone Com-

pany?

A. I could clean cut any time and make something like \$8.00 a share, and I have every reason to believe that I am going to get \$40, a share for it.

Q. Do you know whether or not the Keystone Company has been setting aside \$4.00 per station or \$11.00 a station, or any other

certain amount as reserved for depreciation?

A. That was their definite plan, the agreement under 1123 which the contract was made.

Q. That was the plan in what year?

A. 1905.

Q. Do you know whether or not they kept that up?

A. I don't know. I understand they have got plenty of money to take care of all changes in the art.

Q. Do you know whether or not they have set side \$4.00 for each

station?

A. I have heard so, but the Keystone has been furtherest from my thoughts.

Q. You are a stockholder in it, and undoubtedly get an annual

statement from it? A. Every American stockholder knows enough to keep silent. You buy a little share of stock and it don't mean anything.

Q. Do you look at the annual statement?

A. I told you I read it every month.

Q. Did you notice

A. I notice you have got a bale of pamphlets here, suppose you

look through and elighten us all.

- Q. Do you know whether or not six or eight years ago that company set aside in one year something like five hundred thousand dollars?
 - A. I don't know.

Q. To add to the reserve for depreciation?

1124 A. I don't know.

Q. I am asking you because you admit you know all about that company?

A. No sir, I don't admit anything like that.

Q. Didn't you make the statement a few minutes ago that they had a very ample reserve for depreciation?

A. That is what I was told, I think, in the stockholders' letter enclosing proxies, that everything was in very satisfactory condition.

Q. That is the usual kind of annual statement sent out to stock-

holders by every company?

A. No sir, I have seen them that didn't have any such wonderful statement as that.

Q. How much reserve have they at the present time?

A. I don't know.

Q. Do you know what the capital account of the company is at the present time?

A. No sir.

Q. If they have twelve million dollars in capital,—I don't know, have no idea what it is, but if they have twelve million dollars of capital, what in your judgment ought they to have in the reserve for depreciation?

A. What they have. That is what we set aside and decided as a

contract on which we invested the money in this property.

Q. If they have one million, or one million and a half in the reserve for depreciation, would you say that would be sufficient?

A. I don't know.

Q. Do you know anything about what a sufficient reserve for depreciation for that company is?

A. The amount necessary to keep the property at par.

Q. Have you any idea at all about what would be sufficient to

keep it at par?

A. Yes sir, what it would cost your company to keep it at par if you want to get into that. I have your own statement. I am going to read this into the record before we get through.

Q. Answer my question, you can put that in later?

A. This is in answer to your insinuation, or whatever it is.

Q. No sir, no insinuation, merely trying to get the facts. In the Keystone Company you say you don't know how much they have got in the reserve for depreciation, but you have heard it is sufficient?

A. Yes sir.

Q. You give your professional opinion that it is sufficient?

A. If you will give me a half a day to look into it, I can tell you.

Q. I merely wanted to get the record straight. I didn't want it to appear that you thought it was sufficient?

A. I am informed it was

1126 Q. While we are on the reserve for depreciation, do you think that a pole, a line of poles out here, that a reserve ought to be set up against that line of poles, because we know it will eventually have to dome down?

A. You have got a reserve against your whole plant. I am giving

you \$146,000.00 reserve for this whole property.

Q. I thank you for getting at something, but let's answer my question. If you have a line of poles here and you know that in the course of ordinary events that that line of poles would have to come down say in ten years—

A. (Interrupting.) They do not. There is always a pole line

there.

1127

Q. You can assume a proposition?

A. No sir, I will not, because we never have any time that the pole

line does not operate.

Q. We will say there is a pole line out a certain street here in Houston beginning one half mile from the center of town and extending a mile down the street. The particular poles in that pole line will some day come down, won't they?

A. Everything dies and changes.

Q. How long will it be before that pole line in the ordinary course of events come down?

A. Never in your life time or mine.
Q. These particular poles?

A. Quit talking about poles, talk about pole lines.

Q. I am talking about poles?

A. The pole line never comes down, but certain poles would come down. Poles are knocked down and broken off and struck by lightning. They have been struck and knocked down and worn out for 40 years, ever since we have been in the business.

Q. Let's stick to the question. Where is a line of poles a mile long, these particular poles or that pole line will sometime within the

next fifty years, everyone will have to come down?

A. In the course of fifty years they will all probably change once

or twice, or even more times.

Q. Do you know anything about the physical condition of the property here in Houston?

A. It is like all Bell Companies, they look very nice to me. Q. Do you know what the annual rainfall is in Houston?

A. Around fifty inches.

Q. Something like seventy inches last year.

A. I don't know.

Q. Does rainfall have anything to do with the relative life of

A. Yes sir, but we have had rain ever since the telephone business

began.

Q. But that causes poles to rot?

1128 A. Yes sir.

Q. That is one of the things?

A. Certainly.

Q. If you had a line of poles a mile long, you would know that eventually you would have to replace them?

A. That is absurd to think you would not.

Q. You can save time by saying yes or not. What would be your judgment as to the average life in poles in this climate?

A. Your own experts have given it ten years.

Q. Have you have 17,000-

A. (Interrupting.) They give twelve years, even a higher life than switchboards.

Q. If you had 17,000 poles located in Houston, you would know you would have a part of your plant that within ten or twelve years at the outside that would have to be replaced?

A. The statement shows that during the year you spent \$19,-

000.00 on that very thing.

Q. Answer my question. For each \$100 of that pole line standing, you know you would have to replace in twelve years—you would have to have \$100 to replace the poles?

A. No sir, because you would be putting in new poles right along. You don't do the telephone business with the poles. Let's stick to

the telephone system.

- Q. Let's stick to the poles for the time being. The pole line 1129 would wear out?
- A. No sir, it does not wear out, because there is always a pole line there.

Q. We will get to that. The poles themselves wear out?

A. Some of them do, some get knocked off and some are damaged by lightning.

Q. They are taken down?

A. Changed, they are changed and another one put in their place.

Q. On an average of twelve years you would expect all those poles to be taken out?

A. I didn't say that, your expert says that.

Q. The experts say twelve years. If you establish a reserve to take care of that pole line, you would have to set aside 8% to do it?

A. No sir.

Q. Where would you get the money to put up the poles?

Mr. Howard: Don't you think the poles come out of the maintenance sum?

Mr. D. A. Frank: No sir, we do not, and you know we do not.

Mr. Howard: Aren't you permitted to do it under the rules of the Interstate Commerce

1130 A. No sir, we are not.

Q. Answer that question, Mr. Kelsey. Are we permitted to put in poles and charge them to maintenance fund?

A. I told you all the time you were entitled to keep your investment in this town at par.

Q. Answer my question.

A. I answered it. You are allowed to keep your investment at par. That means when you require a pole line you don't have to assess your stockholders and bond holders. You have got the funds

Q. Will you please answer the question. I asked you a simple question as to whether or not you could charge the poles to main-

A. Certainly, what else could you charge it to, not to operating

expense. Q. Can you under the Interstate Commerce rules charge poles

to maintenance?

A. You can do anything you want to.

Q. Do you know there is a very severe penalty for violating the rules of the Interstate Commerce Commission?

Mr. Howard: Look at them and see what it says about it.

A. I don't recall it now. It is a very clever arrangement made by the Company.

Q. Do you know anything about the Interstate Commerce

1131 Commission rules?

A. Yes sir, we publish them. Q. Have you ever read them through? A. Yes sir.

Q. Just tell us what the difference is between maintenance and depreciation as set up in the Interstate Commerce Commission's rules.

A. I don't care what is set up in the Interstate Commerce Commission's rules. Maintenances and depreciation is all in the same case. Go to any Nebraska Decision and find out what they are doing. If you are cross-examining me about something I am not interested in. I am approaching this proposition-

Q. You are on cross-examination.

Mr. Howard: Yes, and you are asking him, trying to hold an examination as to his knowledge of the Interstate Commerce Commission rules.

Mr. D. A. Frank: He said he had knowledge of them.

Mr. Howard: And you are examining him asking to construe those rules and I say you are consuming time and going into matters that are not relevant to this hearing.

Q. If he wants to say that he don't know what the rules are-A. (Interrupting.) That would be a silly question to

1132 answer that way. I know something about it, I certainly had it jammed down me in the Montreal case in 1912. We all worked together on it. After the Independent Telephone Companies were invited to participate. The Company made the arrangement, not the public.

Q. Let's confine ourselves just to the question and we will save

time and save your nerve?

A. Don't worry about my nerves.

Q. Just tell us the difference, if you know, between maintenance and depreciation?

A. No difference between them.

Q. None at all?

A. No sir. There is of course, you might say one is deferred

maintenance and the other is maintenance.

Q. Can we, as a Telephone Company, in the case that I have justassumed for this telephone line, charge up the poles, the cost of the new poles to take the place of old ones as maintenance?

Mr. Howard: I think there should be some limit.

Mr. D. A. Frank: This man is an expert.

Mr. Howard: An opinion on Interstate Commerce rules. It is a matter to be determined by the rules and they have the rulings here, and if the rules do not permit them to set up certain replacements as maintenance, they do not, and if they do, then they do, and that is all there is to it.

Mr. D. A. Frank: This man has got his theory-

Mr. Howard: I suggest that while it is nothing that goes vitally to this case one way or the other-but Mr. Kelsey's construction of these rules are, I don't think are vital.

Mr. D. A. Frank: He made his report based upon these rules. The Master: I don't like to limit anybody on crossexamination. I trust it will be as brief as possible.

Mr. D. A. Frank: Just as brief as I possibly can.

The Master: Confine your answers as much as possible to specific questions answered without volunteering information and we can probably make time.

1134 Q. Read the question Mr. Stenographer.

(Thereupon the last question was read to the witness.)

A. Charge it up as reconstruction.

Q. You do?

A. That is all the same thing. That is maintenance the minute: you do it. The minute you change the poles you have a maintenance charge.

Q. You know by examining the figures in this case that there is

something like 17,000 poles in Houston?

A. I haven't approached this case on poles.

Q. You haven't examined it at all.

A. I looked at them incidentally. My view point of this case is

from the financial view-point, the impairment of capital.

Q. You are a telephone expert with a wonderful array of experience. Now, as a telephone expert I ask you to tell me if we can charge to reserve-if we can charge to maintenance items of a pole line as they wear out? A. That is current reconstruction. Q. That is?

A. Yes sir, so naturally what else could you charge it to. That is what I call voluntary reserve.

Q. What does the Interstate Commission call it?

A. That is a scheme laid out by the companies by all the 1135 companies to unify—I have been through this thing before. I am not discussing that, I didn't bring that in the case.

Q. I am?

A. You can if you want to.

Mr. Howard: Do you contend that it is obligatory upon you to keep the books under the Interstate Commerce Commission's rules? A. We admit it, and there is a \$5,000.00 penalty for not doing it.

Mr. Howard: For Interstate business. What jurisdiction have

they over Intrastate traffic?

Mr. D. A. Frank: I will tell you very briefly, that the Interstate Commerce Commission has ruled that it has got jurisdiction over the books of even a local company if connected up to do lond distance business.

Mr. Howard: Over the books.

Mr. D. A. Frank: And you can not keep any other kind. You have got to keep them this way.

Mr. J. D. Frank: I read the law on that in the beginning of this

case.

Q. Did you know we have to keep our books in accordance 1136 with the Interstate Commerce Commission?

A. Yes sir, and I also know that before that was set up we all got together and the Companies as a whole advised this. It is a Company proposition and I think it is fine.

Q. It is a law now?

A. It may be, you are not a Common Carrier, at least you have denied it.

Q. We are not talking about carriers?

A. You are talking about being under the rules of the Commission.

Q. The Law of 1909 put us under it? A. It don't make you a common carrier.

Q. I am not talking about that?

A. All the Companies tried to keep us from that standpoint.

Q. We have to?

A. And the result is-

Q. We have to whether we want to or not?

A. I presume so, I don't deny that. Q. We have to set up reserve for depreciation?

A. You ought too if you don't.

Q. We also have a maintenance account?

Q. You know about the telephone business, that to maintenance you charge up minor items?

A. No sir not minor items. All the current stuff.

Mr. Howard: You say that you charge up minor items 1137 of replacement to maintenance?

Mr. D. A. Frank: Yes sir that is right.

Mr. Howard: That is the proposition that I made a moment ago and you denied it very strenuously.

A. Maintenance is everything that can be replaced by Humane

hands.

Q. Everything?

A. Yes sir. What is the difference in reconstruction and main-

Q. Now, there is a certain street here in Houston and the paving was extended and we had a pole line and the pole line had to come down, and we put in all underground work to take the place of it. When the pole line come down should we charge the value of that pole line, the cost of the pole line to maintenance?

A. No, to reconstruction. If you did that last year it yould cost

\$9,000.00.

Q. (Interrupting.) You charged that to reconstruction?

A. Yes sir, there is no-

Q. That is a nice way of looking at it. Down in a certain street we had a pole that was struck by lightning, or damaged in some other way, would we charge that to reconstruction or maintenance?

A. It wouldn't matter which one, they all mean the same 1138 Maintenance or reconstruction is anything that the human hands can put back in the original condition. Your

own records show what it cost to do all this.

Q. I am asking you as a telephone man whether or not we can charge a pole that has to come down to maintenance?

A. Maintenance or reconstruction.

Mr. Howard: What do the Interstate Commerce Commission rules say, don't they say you can charge minor replacements to maintenance?

Mr. D. A. Frank: Yes sir, but not poles.

Mr. Howard: Would you call a pole a major replacement?

Mr. D. A. Frank: Yes sir.

A. The Nebraska Commission has taken the ground that Maintenance and depreciation are all the same thing.

Q. But the Interstate Commerce Commission has not taken that

position?

A. The Interstate Commerce Commission,—that whole scheme was designed by a group of auditors.

Q. It is the law?

A. It don't make it right. Q. It is what we have to obey?

A. Yes sir, that is allright, obey it.

Q. Do you know of a case in Nebraska where the company 1139 did not keep its books in accordance with the Interstate Commerce Commission?

A. They are keeping the books, but the Nebraska Commission comes out and interprets that.

Q. In which case?

A. In a case in Nebraska.

Q. Name one?

A. I don't remember all those things. You can find them. You will find that maintenance and depreciation are all one thing.

Q. The same thing?

A. Yes sir, look at it and see.

Q. Can they set their books up-A. (Interrupting.) They can set them up any way they please,

and keep the records perfectly straight.

Q. Let's assume, so we can get on, let's assume that we have to keep them in accordance with the Interstate Commerce Commission's rules?

A. I think you ought to.

Q. And we have to have a depreciation account, and a maintenance account?

A. I am giving it to you.

Q. Lets assume when a pole line comes down we have to charge it to reconstruction account.

Mr. Howard: If you want to be fair in this case, why do you call it Pole Line, instead of poles. You know the pole

line never comes down. Poles do come down.

A. In this case they changed it over to Underground Conduit. When it comes down you put the Underground Conduits in and naturally you are at some expense in making the change.

Q. If we didn't have a reserve for depreciation set up in accordance with the Interstate Commerce Commission's rulings, how would

we get the money-

A. (Interrupting.) You wouldn't have it.
Q. Let me finish. How would we have money to rebuild the

lines when the poles did come down?

A. You wouldn't have it unless you assessed your stockholders and that is why we are allowing this reserve to take care of this very thing.

Q. If those poles, on the average are replaced every 12 years, it is easy enough to figure you would have to get that amount of

money sometime during the 12 years.

A. Not necessarily. My figures are based on 40 years' experience. 15 years ago I heard these predictions about this 6% this and 12% that, and it has not happened. You have got in this case Switchboards, 10 years. The common Switchboards were put in in 1898 and they are 20 years old, and you give them only a 10 years' life.

Q. Poles?

A. That is all you talk about safely. Change the subject 1141 to something else.

Q. There is 17,000 poles in the plant?

A. Local or Toll?

Q. In the Local. Assume some average value for them, I don't care what it is \$10.00, how much would they be?

A. Figure it out. Q. \$170,000.00.

A. The way I was taught it would.

Q. If you knew that in 12 years' time-

A. (Interrupting.) But I don't know it, my experience shows 22 years.

Mr. Howard: He is assuming that proposition, and you don't

have to adopt it.

Q. Assuming it takes 12 years, the Pole lines would have to be replaced in 12 years, and that it costs \$170,000.00 or \$180,000.00, and you undertook to set aside an amount each year to take care of it, how would you arrive at the amount you would set aside?

A. There is no business on earth that is exact, if there was we would never lose any money. I see what he is driving at. In that case you would set aside 8% and charge against that all the items that come along.

Q. Now, you are talking sensibly?

A. I have been talking that all the time. I never talk

anything else.

Q. You think if we have \$170,000.00 worth of property that did wear out in 12 years, that we ought to have 8% each year? A. No sir, if it wears out in that time you ought to have some-

thing from the Public to keep it in 100% condition.

Q. We ought to get it year by year, that is the safe way?

A. Yes sir, I give you that, I can see that. There is no idea in this case but what the public pays for all these things.

Q. If you have some Cables—Cables will not last forever?

A. I have heard that there were some lead piping pulled out of-what is that town that Vesuvius covered up?

Mr. Howard: Pompeii.

A. There was some lead piping taken from Pompeii that is in perfect condition yet.

Q. Did it have any paper insulation on it?

A. No sir.

Q. What is it that wears out about Cables?
A. What kind?

Q. Any kind of telephone cables, Don't telephone cables ever wear out?

A. Up in the air it is shaken about and it sometimes becomes crystalized.

Q. Does lightning ever strike it?

1143 A. No man yet has ever been able to dodge the acts of God.

Q. Boys with rifles sometimes shoot at it?

A. They love to.

Q. Some times they have climbed poles? A. Yes sir, they have done wonderful things.

Q. Would you say the same thing is true with reference to cables that would be true with reference to poles, that is that it eventually

A. Certainly, and the people are paying for wear and tear.

Q. Underground conduits wear out too doesn't it?

A. That is very doubtful. We still have records of Cæser's works. Q. Underground?

A. Overhead, but buried in Concrete.

Q. If it was buried like it is here it would get water soaked?

A. That ought to help it a little bit.

Q. That makes it last longer?

A. You pump your Ma-holes out Mr. Frank?

Q. But the water runs back in?

A. Naturally in that case you would help to drain them. You ought to drain the Manholes anyway.

Q. You would except this underground Conduit would seldom have to be replaced?

A. No sir.

Q. It would never have to be replaced?

1144 A. How could you replace a hole in the ground?

Q. You have some conduits then that is subject to the water running into it, and that has some affect on it?

A. Yes sir.

Q. And some times you have underground conduit that is not large enough and it has to be replaced?

A. No sir.

Q. You never have to replace any?

- A. No sir, anybody that put in Standard Conduit 15 years ago never has to do that.
- Q. Suppose you put in Standard conduit in a little town of 5,000 inhabitants and it got to be a town of 160,000 inhabitants?

. A. Then you have your capital account.

Q. I am asking you whether you have to change it?

A. Sure you would, but look at the additional Capital account you would have in that case. Every dollar that is lost by increasing population is paid by the population.

Q. Do you know how this town is located? Main street is the

principal street of the town?

A: I have looked at it.

Q. You know what Preston street is?

A. No sir.

Q. You know this street out there, San Jacinto Street, that runs by this building?

1145 A. No sir.

Q. You know there is a street running East?

- A. I presume there are a lot of streets, but I wouldn't burden myself with the names of them.
- · Q. Is there a street that runs east of this courthouse?

A. Undoubtedly. Q. Is there one?

A. As a matter of fact I presume there is. I will consider there is.

Q. Suppose this city should grow to be as large as St. Louis or Chicago, or Cleveland, isn't it possible the Conduit on this street, that leads out on this particular street would have to be changed?

A. No sir, they would have to be enlarged probably, but would go around another way. You might change the whole plan of operation.

Q. You know that conduits are changed?

A. If you grade a street why wouldn't you have to grade it. In

Cleveland they are driving the Nickel-plate Railroad through the town.

Q. You would have to set reserve for depreciation against Conduit? A. No sir, they didn't know the railroad was coming through.

Q. On the assumption-

A. (Interrupting.) You have got no right to charge the people with what may happen. If it does happen, then, by George, they can not escape payment of it. 1146

Q. After it happens then they pay for it?

A. Yes sir, absolutely.

Q. Suppose the people at that time don't want to pay for it? A. They have got to. You have the protection of the Courts.

Q. What protection of the Courts?

A. By granting rates.

Q. Can they grant rates?

A. They can in some communities. I am sure you have the pro-

tection of the Courts. We have always argued that.

Q. You know as a Telephone man that you have to get your reserve for depreciation along with the operation or you don't get it at all?

A. No sir, not as long as the Courts are in working order. Why do you show such a lack of confidence in your Government that you have got to ask for a thing in advance, for a thing that may or may not happen. If you should have this town destroyed by a Cyclone, you would be perfectly - to ask the Court for a rate to replace it. Until it happens—and then the City can amortize it over a period of 10 years. Nobody has to pay cash on delivery,

Q. Do you know of any business anywhere that is set up on the

basis of waiting until something happens?

A. We are dealing with public utilities. My business does not but we have no protection of the courts.

Q. Do you have buildings?

1147 A. Yes sir.

Q. Do you amortize any of it?

A. No sir. It is worth about 3 times what it cost us.

Q. More than it cost you?

A. Yes sir, a great deal more. Q. Why is it worth more?

A. Chicago has grown. It is the manufacturing district where labor is easily accessible.

Q. Has your Bank buildings grown? A. No sir, but the land underneath it-

Q. (Interrupting.) How about the value of the building?

A. We couldn't replace it. Q. How much did it cost?

A. \$65,000.00 and we couldn't replace it for \$100,000.00.

Q. Let's get back to this particular plant here in Houston. there is 17,000 poles you agree that we would have to have a reserve for depreciation. If you had the money at the end of the time you would either have to do that or go into your capital account?

A. Yes sir, and how and why am allowing you a reserve. You

are trying to give the impression that I want to make you pay. You are working for the people and they are paying for this service.

Q. What you have said with reference to Pole Lines and Conduits. and Switchboards apply to everything except land don't it? A. If your land depreciates you certainly had a right to

charge that in against the public.

Q. If the land were depreciating you would charge that also?

A. They invited you in here to give them service. By their invitation they guaranteed you certain things. If they invited you into a decadent community and you bought land there in good faith and it went down, they would have to pay for it, but fortunately no real estate investment has been-it is solid, next to the Catholic Church. You probably have increased fabulously in value.

Q. Are we or not doing our business in a prudent way in setting

up a reserve for depreciation?

A. I am giving it to you and admitting it.

Q. Answer whether we are not?

A. I am telling you that I consider that down, and the amount would be \$146,000.00.

Q. I am asking you about the principal?

A. We are repeating ourselves and losing time.

Q. You could answer yes or no?
A. I said the Public has got to pay this Company for what it wears out. That is plain enough isn't it.

Q. You agree with me that we ought to have a reserve for depre-

ciation?

A. There is no question. I set that up in my statement as 1149 \$146,000,00.

Q. Mr. Kelsey, where did you get the figure of \$11.00 that you

used vesterday?

A. I compiled rates as far back as I could. I want to call your attention to one thing in the Bell Report. This is the A. T. T. Report for 1910 page 4-

Q. In 1910?

A. Yes sir, let me go on. At that particular time looking over on page 3 it gives the number of station and devouting the number of stations as I am-and this station idea is to convey to you and me-You keep talking about Millions, but when we interpretate it into Stations, we know what it means, like a dozen eggs, or a pound of butter. At that particular time they claimed a certain number of station'-

Q. How many stations did they have?

A. 5,882,719.

Q. At \$10.00 a station?

A. \$8.84. Now particular attention is asked of this statement has been circulated to the effect that the Bell Companys has neither fully maintained their property nor set aside from revenues the usual allotment for reconstruction. The following figures are a complete refutation of that statement. The provision for depreciation

during the year was \$52,919,000.00 of which \$33,000,000.00 1150 was unused. The maintenance for that period was \$40,151,-

041.00. At that particular time there was 7,000,000 in possession of The Bell Telephone Company, and the total cost for maintenance and reconstruction was \$1.70. We are still under that \$11 business.

Q. Have you got the last page of the report, the cover?

A. Yes sir.

Q. What year is that report for?

A. 1917.

Q. How many stations do they show on the outside cover that they had in 1917. Look at the outside cover?

A. I will tell you what it means. I have been here before.

Q. I assume that you have been?

A. At the end of the year the number of the telephone stations which constitutes the Bell System in the United States was 10,-475,000.

Q. Does it show on the outside?

- A. Yes sir it is right there. See it? Of the total number of stations 7,031,530 were owned and operated by the Bell Telephone Company is that what you mean? So that your Companies owned 7,000,000 stations and taking your own maintenance and reconstruction accounts for that year in the United States you get the result of \$8.70. It was a good year. There wasn't any storms or floods.
- 1151 Q. They had how much to place to reserve?

A. \$33,000,000.00.

Q. How many stations?

A. 7,000,000.

Q. Look at the back of the book again. Tell me how many stations that report shows we had in 1901.

A. 900,000 Stations at that time.

Q. If the average life of the plant was 16 years, the amount they spent out of the reserve for depreciation in 1917 would really be applicable to the plant in 1901 when they had 900,000 stations?

A. You can show what they did in that year.

Q. What did they spend in 1917 for depreciation?

A. I told you. Q. Tell me again?

A. For maintenance and depreciation?

Q. Just for depreciation? Or both if you cannot give one by itself?

A. For reconstruction that year the difference between \$52,919,000.00 and \$33,000,000.00 which they put away, making that year a reconstruction account of \$19,919,000.00.

Q. Assuming the average plant was 16 years, what would

that-

A. (Interrupting.) I don't assume anything.

Q. Please answer the question.

A. I will not.

Q. Assuming the life of the plant at 16 years, and there were 900,000 stations in 1901 and \$19,919,000.00 was spent for replacement in 1917 what would that be per station?

A. About \$2.50.

Q. Are you sure it would be?

A. Yes sir, it would be about \$2.60. Q. It is of 7,000,000, it is 900,000.

A. What has that got to do with the 1917 report.

Q. I asked you to divide it by 900,000?

A. Divide it yourself. You show me what they spent for this—Q. (Interrupting.) Let's stick to this question Mr. Kelsey?

A. What has that got to do with this, something that happened

16 years ago.

Q. You let me conduct my part of it. 900,000 stations put in in 1901 would have a depreciation, a replacement fund against it about 16 years afterwards if the life was 16 years?

A. No sir, you spend it all along.

Q. Assuming it?

A. You spent some of it in 1903, and some in 1904.

Q. Assuming it did, it would be something like \$20.00 a Station?

A. No sir.

1153

Q. Assuming it would?

A. \$200.00 a station you are assuming in this case.
Q. Divide 19,000,000 by 900,000?

A. It would be \$20.00.

Q. So it isn't absurd?

A. Yes sir.

Q. Not absurd as \$200.00? A. No sir, but it is absurd.

Q. As a telephone man of long experience don't you know about year to year what you spend out of your reserve for replacement is not replacing property that has worn out that year but is replacing property—

A. (Interrupting.) If the property wasn't worn out that year,

what would you replace it for?

Q. It wasn't bulked in that year?

A. No sir, but we would be in a nice fix if stuff didn't last.

Q. Wouldn't it give you some idea?

A. It would have no bearing whatever. All you have got to do is to begin at the start and take the number of telephones the company has and the maintenance and reconstruction they have during the period and add that up and divide it and you have got it.

Q. If this plant was to be assumed to have a life of 16 years—

A. (Interrupting.) It has got a life of 100 years.

Q. The elements of this plant, I will say, the element of this plant be assumed to have a life of 16 years and if that assumption

1154 be sound in the course of 100 years you would have 6 cycles?
A. Naturally.

Q. You yourself have assumed from cycles of 12 years?

A. I am not interested in your-

Q. (Interrupting.) You say you never testified in a case in which you assumed a cycle of 12 years?

A. Yes sir.

Q. Haven't you ever testified in a case in which you said the reserve ought to be 7%?

A. I might have said something like that in some local case.

Q. Did you ever testify in which you said 8%?

A. Yes sir, every telephone case-

Q. So you have testified in some case that the reserve for depreciation ought to be 8%?

A. No sir, I always set out this \$3.00 or \$4.00 per station reserve

fund.

Q. I don't want to be unfair. Do you state positively that you have never testified that the reserve ought to be 7%?

A. I don't recall ever having testified to that. If you have the

records, produce it.

Q. I am asking if you ever testified to that effect?

A. My memory doesn't serve me.

Q. Would a plant in a small town in East Texas have the same

investment per station as here in Houston?

1155 A. Naturally no sir, that is absurd. You have got higher real estate values in the Cities. You have got a higher building value.

Q. Would the reserve for depreciation that would be sufficient

in the one case be sufficient in the other?

A. About, yes sir. I find from experience they will always take

care of most anybody's troubles.

Q. Take the City of Houston and assume it has got 27,000 stations and take the city of Philadelphia and your underground conduits work there for the Keystone Co., and assume that they have between 30 and 40 thousand stations, would the reserve for depreciation in the two towns have to be the same?

A. No sir. No. No. I don't say that anything has to be the same, or I couldn't say they have to be different. When an Insurance

Company insures your life, based—

Mr. Howard: Just answer his question and we will get along better.

Q. What is the cheapest construction for a telephone plant per station?

A. That I know of?

Q. Yes

A. One of the most remarkable plants in the United States is the Hayden plant at Highpoint North Carolina. He went down to

Augusta, Ga., and his wife was an operator, and those two people together bought an old Common Battery Switchboard and

Common Battery Switchboard and took it down themselves and moved it up to Highpoint North Carolina, and they installed that plant. To-day he has a Common Battery System that costs him only \$22.00 a station.

Q. Would you say that he ought to set aside \$4.00 per station per

year for depreciation?

A. Yes, sir, it doesn't matter what the plant cost in the first place. He is going to have decay——
Q. Your theory of it, the \$4.00 would be proper for him to set

aside?

A. I didn't say \$4.00. I say the difference between \$11.00 and what he actually spent. In this case I say the difference between what he actually spent and \$11.00 would be a reasonable assumption.

Q. You would take \$11.00 per station and out of that you would

take your maintenance and set the rest aside for replacement?

A. Every dollar he didn't spend in keeping up his plant I think belongs to him.

Q. That is your system and you would say that system ought to

be worked in Houston?

A. I don't say any system ought to be worked, but I think it would work here. I think when you are allowed \$146,000,00 you are keeping up with the Band Wagon.

Q. Would \$50.00 and \$60.00 a station be about the aver-

1157 age investment?

A. In Common Battery Switchboards run about \$92.00?

Q. You have some as low as \$60.00?

A. Magneto Plants, men put in the switchboards themselves do their own work and put it in as low as \$40,00 or \$50.00 a station.

Q. If you had a very extensive system like you would have in New York or Chicago it would run even more?

A. That makes it expensive ves sir.

Q. What is the highest valuation you ever heard of, of a telephone plant?

A. \$125.00 or \$130.00, the Old Axiom used to be \$100.00 per station.

Q. That used to be when?

A. That is the money needed.

Q. When was that?

A. In the last few years, up to 1914.

Q. That was when you had one and two story buildings for telephone property wasn't it?

A. Who had?

Q. When Telephone Companies had that Axiom. They didn't have 7 story buildings?

A. They didn't need 7 story buildings. My independent clients always put in buildings suited for that purpose and they usually had a nice looking building like a Library building.

1158 Q. You have testified in quite a number of cases. have observed in some cases where they had an investment of \$150.00 or \$200.00 or \$250.00 per station?

A. What cases?

Q. I asked if you had not?

A. I do not remember.

Q. What was the per station cost in Cleveland?

A. What?

Q. What was the investment in Cleveland?

A. \$15,000,000.00 for 104,000 stations, with an accrued depreciation of two and half million.

Q. I am not asking about that I am asking about investment? A. \$15,000,000.00 divided by 104,000 stations will give you \$140.00.

Q. About that?

A. Yes. sir.

Q. Would say that the man who had this little plant that you have testified about that came to \$22.00 per station-

A. (Interrupting.) That was his own work.

Q. —ought to have a reserve for replacement the same?

A. He would have to have because he cannot buy his replacement material for the price he got this. He has to go into the market and buy.

Q. He would have to set aside as reserve for replacement-

A. (Interrupting.) The difference between what he actually spent and our general experience of \$11.00.

Q. Based on what it would cost to rebuild the plant? 1159A. Yes, sir, under ordinary circumstances.

1160 Cross-examination.

Questions by Mr. D. A. Frank:

Q. Now, you admit that the Bell Company know something about the telephone business?

A. Why, you have got a business here 93 per cent good after all

these forty years, and that shows a very well run concern.

Q. For instance, they set up \$4 per station for reserve?

A. I should say the first reserve ever set up in the telephone business was in Philadelphia in 1905. At that time the Bell Telephone Company never heard of reserves. You can look through their reports and you will never find the word, Mr. Frank.

Q. And the Bell Company has been setting aside something like

5½ to 6 per cent-

A. (Interrupting.) Oh, yes, since you started your 1912 system of bookkeeping.

Q. And you think that the Bell Company is not as apt to be right

as you are?

A. The Bell Company is trying to enlarge its investment and make money on it, and have adopted the principles that would give the most-

Q. I will ask you if the railroads do not set up a reserve for de-

preciation?

A. Certainly. The Pennsylvania System puts its reserve into the property; that's how the tie property proposition came in there.

Q. Do most railroads set it up in that way?

A. They try to figure-

Q. Have they always done so?

A. The question of reserve today is the least understood 1161 of any. Mr. Fisk, one of the most eminent bankers of this country, has made a study on what to do with reserves, and nobody, no authority, no court, has ever said what they are and should be

but they should have enough money on hand when they need it; that's all; that means that it is no different from an individual.

Q. Now, you stated in the Cleveland case that their reserve was

too large?

A. I didn't say a word about it; you sprung that. Cleveland showed \$550,000 a year and I didn't say that it was too much.

Q. Didn't you say in the Cleveland case, Mr. Kelsey, that

\$1,200,000 was a sufficient reserve?

A. That's the difference between the value the engineers found the property to be and its 100 per cent. You are getting right back here to this case again; they found the property in Cleveland 92 per cent good upon a \$15,000,000 property, and claimed and allowed \$1,200,000 as enough.

Q. You then modify your answer to what you said just now?

A. Let me read that; you have got all portions here.

Q. You stated in the Cleveland case the company has a rainy day fund there at the end of August 31st of \$2,273,859.60?

A. Yes; that's quite a tidy sum.

Q. To do with it as it choosed without charge. You also said, as a matter of fact the property at no time will always be found to be practically 92 per cent good?

A. Has to be in order to talk well.

Q. Hence eight per cent, or \$1,200,000 seems to be the actual limit a public utility corporation can take without putting the company in the position of eating its cake and having it, too?

A. Follow that right on.

Q. If more than \$1,200,000 is ever needed to keep this property 100 per cent the people can be charged with it, but there should be a limit to which reserves can be created before they are actually needed?

A. Why, I think that's excellent doctrine, protecting that property at par right along; there is no escape from that, Mr. Frank.

Q. Now, Mr. Kelsey, didn't you further testify that in case the Cleveland Company was changed to automatic that it would cost \$6,000.00 to put it over?

A. No.

Q. You didn't testify to that? A. Yes, about \$60 a station.

Q. And they have 105,000 stations?

A. Well, just about,-it would run practically \$6,000,000.

Q. And you testified that if they put in automatics they would

need all the reserves they have and some more?

A. Yes; and they can't get this automatic for several years to come and most of that automatic charge is going to be new account because what we are trying to take care of is the value of the old property scrapped. You have no right to depreciation and reserve for this capital account, and every dollar above what your old stuff cost is capital account.

Q. Mr. Kelsey, you testified in your exhibit here that \$140,189

would be a sufficient amount to take care of depreciation in the Houston local exchange-

A. And long distance.

Q. And the proportion of the long distance lines which 1163 you intend to allocate to Houston which per cent you don't know yet?

A. You ought to know that. You are still holding the stuff back.

Q. You testified to that, haven't you?

Mr. Howard: Are there some steps being taken to furnigh us that information?

Mr. D. A. Frank: Yes. If Mr. Kelsey had wired for it a week in advance we would have had it; he wired for it on Friday before getting on the stand Tuesday.

(By Mr. D. A. Frank:) Now, on that automatic switchboardwe have heard a good deal about the automatic switchboard-

A. Yes; you have heard quite a little.

Q. What is your opinion of the automatic telephone?

A. Why, it's an excellent thing to cut down your operating Whenever a company gets to having an operating charge charges. of \$16 per telephone per firl it is about time that they are adopting some machinery that would cheapen the cost of operating and give the public the benefit of it. Now, it is costing you \$16 to operate a telephone in Houston today, according to your figures. Now, if the machine system were adopted and you came in here and scrapped this property here and it caused you to operate on a new proposition of about \$4 a station, you could earn the \$12 a station in this town, would you capitalize—and it would and it would almost pay for itself,—your automatic system.

Q. Now, did you tell the commission at Cleveland that that was

the way to remedy it?

A. Yes, sir. I said the first thing in Cleveland was to 1164

wipe out the-

Q. (Interrupting.) Let's stick to the autmoatic. Now, according to your idea, by spending six million dollars the Cleveland Company could have cut down their tremendous expense still further?

A. Oh, that is absolutely true,

Q. But it would have cost six million dollars to do so?

A. Oh, some of it is capital account, Mr. Frank.

Q. What proportion of it?

A. Look at the testimony and find out what the switchboards, less junk, are worth?

Q. What are they worth?

A. I don't now; you have got my testimony; read it.

Q. You didn't testify to it in the Cleveland case, -about junk? A. No, no; that was bothering Mr. Crain and the commission

more than it was me. I went into Cleveland to show the state of the equipment, how the thing stood, and I didn't give any opinion.

Q. Now, as I understand you, we could put in an automatic switchboard?

A. In the next seven or eight years; you couldn't get one under six or seven years, I don't believe.

Q. Why?

A. Because they are all signed up for four or five years. Q. Couldn't get one under how many years,-five or six?

A. You might or might not. Q. After you give your order?

A. Yes.

Q. Switchboards, sometimes, wear out?

A. Now; now can German silver, platinum and copper 1165 wear out?

Q. But switchboards do wear out?

A. One never has. You take a switchboard and rebuild them. Q. You say a switchboard never gave out because it wore out.

Have you ever testified that one did?

A. Well, you have got all this stuff here, so come and tell us. I am going to make you go back to the Birmingham case before you

quit. You know you started this thing.

- Q. Didn't you testify in the Enid case that a certain switchboard case out because it was worn out and that it was only six years old, the Indianapolis switchboard, and it was a Kellogg switchboard, and that you didn't make them as good then as you were making them at that time?
- A. Oh, we did that first in the Keystone Telephone, but it was a mistake; but what we put in in Indianapolis and St. Louis was an enlargement.

Q. On what? A. On some of this scrap that the Bell Company had abandoned.

Q. And that was a liability?

A. Well, you couldn't build it until we let you. Q. That's true,—the same with other inventions?

A. I suppose you folks have invented the whole world. Why, I think the inventor of the automatic system is in the court room.

Q. Who is he, Mr. Kelsey?

A. Mr. Gates.

1166

Q. Mr. Charles A. Gates?

A. Yes, sir; and I came down and tried to buy him out.

Q. Why didn't you buy him out?

A. Charlie had too much sense to sell out.

Q. Is Mr. Gates a millionaire now on account of it? A. I hope he is if he aint. You can't any more carry on telephone service today without a lot of manual help than you can carry on an old wagon road system,—the railroads take its place, it's got to grow.

Q. Switchboards sometimes have to be changed?

A. Oh, yes; in 40 years we have had a lot of changes,-they are right in the record and have all been charged in the bill.

Q. When? How do you pay for them?

A. Rebuild them and sell them somewhere also. Way back in the 80's,-Cincinnati put in a switchboard, Mr. Frank, along in the early 80's. The Cincinnati Bell Company had what they called a drop switchboard, still a magneto, and when they changed they shipped that old board to Kansas City, and it served there in the main office in Kansas City from about 1894 until 1903 and then it went on down to Joplin and served its time there and is probably being used somewhere today. They can't wear out. What is there about it that will?

Q. If the switchboards in Houston, Mr. Kelsey, should be replaced and the subscribers' equipment should be replaced with auto-

A. (Interrupting.) What part of the subscriber's equipment?

Q. Well, all necessary parts in order to make it automatic. A. Except the transmitter, receiver and induction coils?

Q. Well, all necessary parts.

A. Please be specific. Are you going to eliminate only the board,—the switchboard?

Q. Well, what would it cost per station in Houston?

A. I don't know; I would have to make an estimate, and

1167 the city is not interested in that.

Q. Please answer the question. Would it cost you about \$60 a station?

A. I don't know. You can find that out.

Q. You testified in Cleveland that it would cost \$60 a station. A. That was my information. It used to run \$39.95. When

A. That was my information. It used to run \$39.95. When Houston had the old Holmes Company the prevailing price of automatics in those days was \$40, and that covered the installation of switchboard and all; and now it will run up to about \$60.

Q. And that's your judgment of what it would cost to put it in

in Houston?

A. Yes.

Q. Now, we have about 27,000-

A. Yes.

Q. —so it would cost something over a million and a half dollars?

A. May be,-no.

Q. To put in automatic switchboards in Houston?

A. Mr. Frank, certainly not. Q. Well, what would it cost?

A. Well, you would have to tell me all your lines.

Q. Well, we have 27,000.

A. Oh, no, you haven't. You will have to learn something about your Houston plant. Ask your own local manager something about it.

Q. Didn't you say that the cost in Cleveland was \$60 a station?

A. In that case it was semi-automatic.

Q. If we put in the semi-automatic here it would cost \$60 per station? Would it, or would it not, cost the same in Houston?

A. Not necessarily, because they had eleven offices there and you have three, I think; I don't know what you have here.

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Q. Well, would that reduce it any?

A. A little.

Q. How much?

A. I don't know. You know I am not the sales manager of the automatic telephone but if you will ask me what a Kellogg would cost I can tell you.

Q. Well, let's assume that it would cost \$60,-that would be

something over a million and a half?

A. A million—you have got 18,000 lines, you know, and there are no instruments in this cost,—you don't replace those under any circumstances.

Q. Well, \$60-

A. (Interrupting.) No; you claim to have \$5 worth of stuff on every station.

Q. At \$60 that would be \$1,620,000?

A. For how many?

Q. 27,000.

A. No; stick to the lines.

Q. But your statement—now, that is the first time you have used the word.

A. Oh; may be.

Q. You have been talking about stations, and you laughed at me yesterday because I wasn't familiar with stations.

A. I know, but when you are talking about an automatic station an automatic switchboard in every line, how many switch-

1169 board line- have you got in town?

Q. You put it in a per station basis in Cleveland?

A. As the maximum, as an approximation. Q. Let's approximate it here at \$1,620,000. A. Make it \$2,000,000 if you want to.

Q. What per cent of that would you get for the junk value of the old switchboard?

A. I don't know.

Q. Would you get as much as 20 per cent?

A. I don't know. If you offer to sell it to me I will estimate what I might pay for it after looking at it.

Q. Would you pay 20 per cent?

A. I don't know.

Q. Would you pay \$500,000 for it?

A. I would not enter into any contraversy-

Q. What is a switchboard worth? What's the account on the books?

A. Well, when-

Q. I think it is something like \$1,300,000?

A. Then certainly you would have to pay that bill. Let me tell you something: During the war the Cleveland Telephons needed a board, and came down here to Waco and bought a small Bell board down there from you folks, and were tickled to get it, and I hardly think you would recognize it when it was lined up with other boards; I know I could not until they told me about it. Somebody was doing Herculean work in Cleveland. You know I have been everywhere, and I can tell you a whole lot about Waco, but they bought the old switchboard, and I don't believe you folks lost a cent.

Q. Assuming \$1,300,000 for the present board, and if it is 1170 20 per cent—

A. I didn't say 20 per cent. You can't get me on that.

Q. I am informed by the chief engineer that they got 20 per cent

out of the Waco board.

A. That settles it. If you got 20 per cent you were suckers; they had to have that board and you could have sold that board for more than it cost,—that is another proof that the A., T. & T. Company has got its finger in the pie. Did you give that board to Cleveland at 20 per cent? I would like to be excused so that I can go out and laugh.

Q. If this switchboard in Houston, that we are discussing, if it has a reproductive value of \$1,300,000 and a junk value of \$260,-

000, would have to be charged off at \$1,040,000?

A. Why, certainly. The people of this town should pay for it; I

don't deny that, and haven't at any stage of the game.

Q. Supposing—we will assume that we are going to replace that switchboard within the next ten years—that would be a reasonable assumption——

A. Well, you would be lucky if you got it in ten years. When

did you start?

Q. Well, let's start-

- A. (Interrupting.) You are coming in and trying to begin now. You can't put over that stuff on me. You didn't begin your reserve for depreciation. I told you awhile ago that wise men all started earlier.
- A. Well, with \$1,040,000—assuming that that switchboard was coming out in ten years—it would be sensible to set aside \$104,000 annually in order to take care of that?

1171 A. If you begin on it when you put the boards in.

Q. I am taking your assumption.

. A. No; you are not,-you are assuming nothing of the kind.

Q. Let's call it my assumption, then. Now, if we are going to use,—going to lose a million and forty thousand dollars in ten years, practice would suggest to set aside \$104,000—

A. Yes; it may be right. You have \$1,460,000 on hand, even if you are starting now, but your reserves show a million already, or so.

. Q. Then that \$104,000 a year to take care of your switchboard alone.

A. Well, all right. You are making a beautiful picture,-go

right ahead.

Q. Now, you allowed \$148,000 a year for depreciation for the whole plant, including whatever per cent of the toll lines of the entire State of Texas that you intend to set aside.

A. Oh, no. That's what you should have been setting aside all these years. You can't start today, but you certainly find yourself

burdened with depreciation.

Q. That would leave \$44,000 a year to take care of all other de-

preciation?

A. Well, the changes in the art have taken care of all reconstruction in normal accounts. Q. Do you seriously tell this Court that the maintenance would take care of the depreciation of the plant?

A. Why, your books show what you are doing in this town every

year-

The Master: Just answer the question.

1172 (By Mr. D. A. Frank:) Does maintenance take care of depreciation?

A. Yes; maintenance and depreciation are the same. I am talk-

ing about reserves.

Q. They are all the same thing?

A. Yes, sir. The Nebraska Commission goes along with me on that, but reserve for depreciation—

Q. What are reserves for depreciation for?

A. To keep your property up and to protect your investment at

all times against loss.

Q. Let me see if I understand you; let me state two ways and tell me which is your theory: Is your theory this, that we should set aside \$4 per station per year and call that the reserves for depreciation and to that fund charge all replacements?

A. No; that has nothing to do with that. That's in current ex-

pense,-that's a renewal reserve.

Q. Now, I am beginning to see what your theory is.

A. I know you have been asleep at the switch two days.

Q. Mr. Kelsey, let me state your theory and see if I understand you.

A. I came here and find you putting all expenses that you possibly could into the Houston exchange and I said that while you were doing that—

Q. (Interrupting.) Let me state your theory.

A. If ain't theory. Now, you are getting all mixed up between theory and practice. It is my suggestion and belief.

1173 Q. If I understand your theory properly—

A. Get that, my belief, properly.

Q. If I understand properly your belief is that we should ascertain for all maintenance expense, including the proper replacements, set aside——

A. (Interrupting.) Current replacements?

Q. Current replacements, set aside \$4 per state per annum as a permanent reserve for depreciation?

A. No; for renewals,-for that rainy day time when you buy this

automatic switchboard.

Q. That's quite a different proposition.

A. Absolutely not.

Q. That's quite a different proposition from your set-up on our books.

A. I don't care anything about that. Why, you come into this case and put your best foot forward and show your maintenance so much, and reconstruction so much—

Q. Now, Mr. Kelsy, on page one of your exhibit you have "Main-

tenance \$139,000"____

A. No; you have that; that's your report.
Q. \$139,501. That's the figure you adopt?

A. Now; I don't believe you any more, and I will have to see.

Q. Look and see.

A. Yes; that sounds good.

Q. \$139,501.81. How much did you account for that year was spent for realized depreciation?

A. Where? There it is. I am surprised at your statement,-

reconstruction, \$9,635.00.

1174 Q. Now, did you know, Mr. Kelsey, that that item was a charge for an account, reconstruction, that's allowed by the

Interstate Commerce Commission as customary?

A. That's what you did. You spent that, didn't you? You know that's maintenance charge to the reserve—I don't care anything about that; I allow you full credit for that. In your cost you didn't ask for that, and I am giving you credit for it; in your case you don't allow that. We have been asking you all along what you spent for reconstruction and you didn't give it to the city.

Q. Do you know that in addition to the figures you have on that statement there, \$32,178.23, was charged against reserve for replace-

ments?

A. Why did you put it in? Put it in, and then I will give you the difference between \$11 and what you have there,—put it all in.

Q. Did you know that in 1909 the realized depreciation of the

company was \$28,027.10?

A. Why, that don't make much difference; add that to maintenance charge and deduct it from the \$11 average.

Q. And in 1910,—getting up a little bit closer, 1912, the total amount of realized depreciation was \$183,903.

A. Why didn't you give that information to the city?

Q. I am reading this from the city report.

A. It don't make any difference; no matter what went in there,—put it in there.

Q. And in 1913 the realized depreciation was \$121,396?

A. Well, why didn't you put it in?

Q. In 1914 the realized depreciation was \$57,747.79, and in 1915 the realized depreciation was \$115,170.52.

1175 A. Well, why wasn't that put in and given to me? You

wouldn't furnish the city with that.

Q. It was furnished to the city. I am reading from a copy of reports furnished to the city during the last nine years, and in 1916 the realized depreciation was \$157,372.69, and in 1917 the realized depreciation was \$152,600.63.

A. What is the maintenance that year?

Q. I haven't the maintenance figures,—and in 1918 the realized depreciation was \$74,622.40. Now, Mr. Kelsey, do you understand that these figures I have just read are charged on our books under the rules adopted by the Interstate Commerce Commission against the reserve for depreciation,—do you understand that?

A. I do so. Yes, you spent that.

Q. That money was actually spent?

A. If you actually spent it you are entitled to credit for it every year that you ran your business in Houston.

Q. For instance, in 1916, we had fewer stations than we have now

and our actual realized depreciation was \$157,372.69.

A. What were you doing that year?

Q. We put in some renewals.

A. And some construction is possibly there.

Q. This has no construction in it whatever, not a dollar—there was \$63,207.96 labor and \$196,610.17 material, from which there was a salvage of \$102,425.44, leaving a balance of realized depreciation of \$157,372.69. Now, Mr. Kelsey, that year we would have spent more than your \$4 per station amounted to?

A. Sometimes you would and some years you would not.

1176 Mr. Howard: That was the year of the storm.

A. I am trying to show that his amount will take care of all of this. I want this, and when I make my final report I will include all of this. When I get through, if I can get this stuff, I will have that all in there.

(By Mr. D. A. Frank:)

Q. Does that suggest to your mind that \$148,000 would not be sufficient?

A. Not at all, Mr. Frank.

Q. Now, Mr. Kelsey, evidently I did not understand your theory a few minutes ago.

A. Why, you haven't understood it from where we started.

Q. Do you understand it?

A. You bet I do.

Q. Does anybody else in the world understand it?

A. You bet; every telephone man, and all bankers, know beautifully what that is.

Q. Has any commission, court, or expert ever followed you in that?

A. Why, yes, they have.

Q. Which one?

A. Why, Indiana; in Logansport they were perfectly willing for

Q. (Interrupting.) That isn't the question I asked. I asked you if any court, commission, telephone company or expert has ever followed you in this theory of yours of setting aside \$4 per station per annum for depreciation?

A. Mr. Theodore Gary always has, and I understand the Kinloch Company adopted the cash reserve proposition. That's what I am

talking about,—renewal reserves. There is no difference between a cash reserve and money invested in—

Q. (Interrupting.) I am speaking about \$4 per station.

A. That's a reserve fund.

Q. Has any telephone company or expert or court or commission ever followed you on your theory that \$4 per station is the right amount?

· A. Why, the North Dakota Telephone Company and all my clients always did it that way. We had no measure to go by.

Q. What court or commission-

A. (Interrupting.) A court or commission don't concern me; I never made a dollar out of a court. About—

Q. During all of these years have you followed this scheme?

A. Practically all the time.

. Q. That explains why most of them have gone on the rocks?

A. My ability to push them to ask for higher rates. I hate to go

before a commission and face a smart attorney.

Q. Now, I don't understand your belief, because if I did, you would have answered that all these items of realized depreciation ought to have been charged up as maintenance.

A. In the operating expenses—current expenses. Q. And the \$4.00 set aside in addition to this?

A. No; I would add both of them together and give you the differ-

ence in the reserve fund between that and \$11.

Q. The average for a number of years appears to be considerably over \$100 realized depreciation. What year would you like to have that back to?

A. I would like to have it back to 1900.

Q. The realized depreciation, Mr. Kelsey, would naturally the smaller in the earlier years, wouldn't it, when the plant was not so large?

A. Well, it would be a certain amount on your books. We don't care what it is but want to know what it is; in fact, come in and show your records of all years.

Q. Would realized depreciation be less in a small plant or a large

plant?

A. Have to be less. If you have got in a plant of 23,000 subscribers you naturally deal in larger units.

Q. In the realized depreciation, as I understand you, ought to be

added the maintenance?

A. I intend to when I get the final figures and put my final report in here.

Q. And when you add it to the maintenance you subtract the per station amount from \$11?

A. Yes.

' Q. Now, just why do you use \$11?

A. I told you in the outset, and explained it, and have even put it in writing and given it to you. It is the basis of all the years and is the result of engineering conjecture and of so-called theories or suggestions, and it has never amounted to more than \$11.

Q. It amounted to \$11 on the stations then in existence?

A. Absolutely each year clear back.

Q. But the proportion applicable that year was necessarily applicable to stations in existence—the average life of the property before that?

A. I know nothing about "average life,"—the actual like.

1179 Q. The actual life of the property. That was taken out that year; that would be true?

A. Why, certainly; and we have done that.

Q. And you did it yesterday and found that if we assume the average life of the property to be 16 years—

A. (Interrupting.) I didn't assume anything.

Q. I assumed it. Other witnesses here have understood it was actual, and I have assumed a 16 year period in order to be fair. Now, you would have to divide the total amount of money by the number of stations in existence 16 years prior—

A. (Interrupting.) No; we go back to the start.

Q. If a telephone plant remained stationary for a number of years would the result be different from what it would be if it was growing

rapidly?

A. No; when it is growing rapidly you are adding to capital and have got a chance to gumshoe a lot of stuff in maintenance. You remember the Southern Pacific Railroad built thousands of miles of track out of maintenance? There is always a question as to whether it is maintenance or capital, and I would have to look at the books to see what that was.

see what that was.

Q. Taking, for instance, 1917, when there was \$152,000 realized depreciation as compared with \$32,000 in the year that you actually used the figures furnished you by Mr. Lyndon, taking that year, if you were told that \$50,000 of that realized depreciation was telephone poles, and you thought that this plant eventually would be very much larger than it is now, would you concede that at some time in the future a still larger amount would be necessary to be expended in one year for poles?

A. No. You found after 40 years of study of doctrine and

1180 theories that the sum amounts to so much.

Q. Mr. Kelsey, if the realized depreciation is only \$18,000, but in 1917 was \$152,000, just why did that happen?

A. I don't know. You ought to know. You have got the records.

and your engineers made reports and recommendations.

Q. Ins't — reasonable to suppose that in 1917 a greater proportion of the property in 1917 had to come out because of advanced age and use?

A. No.

Q. And public requirements?

A. May be.

Q. In other words, as the plant grows-

A. (Interrupting.) You would have a charge against the records of that year.

Q. As the plant grows up there will be more to lop off each year?

A. And there may be years that you won't lop off anything. All you need is to go back in 1910 and find out what you actually lopped off, and I allow you that. If it went in in the ordinary way I propose to set it out in the ordinary way and make a study of this ques-

tion to see whether that doctrine doesn't apply.

Q. You would say, regardless of your plant, that \$11 is sufficient,—that what you — is to add the maintenance for any year to the realized depreciation, or current depreciation, I believe you call it,

for that year, and over and above that you ought to have some additional to set aside?

A. The difference between that amount—

1181 Q. (Interrupting.) Well, I said irrespective of the \$11.

A. No; you always find me standing on that \$11 proposition. It is the result of tests, and in Cleveland if they had set aside this little rainy day fund of \$4 they would have had all the money they needed to rebuild that plant.

Q. If a man had a plant costing \$22 per station he would have

had the same experience?

A. No; you are talking about abnormal conditions.

Q. Take one costing \$60. A. The same proposition.

Q. You say that a plant—take a plant that cost \$60 per station and you say it ought to set about \$11 per station?

A. I am talking about \$11 being the absolute miximum.

Q. And in one costing \$90 a station, \$11 would be sufficient? A. Because on \$90 the plant has underground construction and more perfect conditions.

Q. On \$120, \$11 would be sufficient?

A. Same thing.

Q. One costing \$150, \$11 would be sufficient?

A. Absolutely.

Q. And at \$180, \$11 would be sufficient?

A. I am going to show, and am going back through the history of the Houston plant absolutely and not theory.

Q. At \$200, \$11 would be sufficient?

A. Absolutely, and in the Keystone case it has proven it beautifully well.

Q. You stated yesterday that you had not been to the 1182 Keystone people and examined their books for about eight years.

A. I told you that they publish a correct statement every month but I hadn't watched it particularly.

Q. But you stated a moment ago that it worked out beautifully.

A. It is common knowledge.

Q. If it worked beautifully how do you know that, if you haven't seen the books?

A. I have seen the published statements.

Q. Still don't you know that they themselves start their reserves

for replacements too small?

A. No. It has been perfectly satisfactory,—the arrangement has proven perfectly satisfactory, and my judgment with New York, with this particular firm, it considered A-1, and they know, after it has been demonstated for fifteen years that the plan is right.

Q. At \$90 it would be about 11 or 12 per cent?

A. I am not interested in a per cent proposition; I never approached this case from a percentage approximation, and that is something that has no application—the approximation.

Q. \$150 per station that \$11 would be something like 7 per cent,

wouldn't -, and \$200 per station at \$11 per station would be about 5½ per cent?

A. You seem to be a pretty good mathematician.

- Q. Now, Mr. Kelsey, the fact that the most successful telephone people in the world-
 - A. (Interrupting.) Who are they? Q. The Bell Telephone Company. A. (Not caught by reporter.)

Q. Is the Bell Telephone Company successful? 1183

A. They pay their eight per cent.

Q. Are they as successful as any telephone Company?

A. Apparently you are successful.

Q. The Bell Telephone Company is as successful as any other company, isn't it?

A. Why, that answers itself.

Q. Is there any company any more successful?

A. Yes; the stock of the Ft. Wayne Home is quoted at \$400, and your old stock at \$95, if you measure success by the market value of the stock-

Q. What company is more successful than the Bell?

A. Why, the Johnstown Telephone Company is \$330,—the stock.

Q. Stock isn't what I am asking for. A. You are talking about success.

Q. How big a company is the Johnstown Company?

A. About 10,000 stations, in a little manufacturing town,—a very wonderful place.

Q. Would you say that the Bell Telephone Company was reasonably accurate in what they did in respect to depreciation?

A. Why, they have got more than they need; they have got three

hundred million reserve.

Q. Is that one of the reasons you think we may go broke sometime?

A. Why, that isn't the proposition at all. I am not saying that you are going broke, but the question is as to whether or not you are going to maintain the eight per cent.

Q. I am talking about depreciation and reserve for depreciation. A. The reserves of the Bell Company are three hundred

1184 million dollars.

Q. I am not asking the amount, but I am asking if the per cent the Bell Company has been setting aside for several years on a percentage basis-

A. No, I didn't say anything about per cent; it don't say anything about per cent in there; it says after you get all you have out there

are 33 million dollars left.

Q. Do you take the annual report of the American Telegraph & Telephone Company?

A. No; but that report goes to its stockholders, and my wife happens to be one. Here it is.

Q. You do know that the Postmaster General made an agreement for \$5.72 per cent?

A. Let me go out and let me laugh again at the Postmaster Gen-

eral in this case. Now, look here! Of all dirty contemptible, put-up jobs, the Government ownership is the limit, and I would like to tell them so; and on that committee was Mr. Bethel, Mr. York, Mr. Stevens and Mr. Arthur Adams,-all Bell men except one,-Mr. Adams.

Q. Do you know who the Postmaster General is? A. Oh, any fool knows who Mr. Burleson is.

Q. Do you know?

A. Yes, sir.

Q. Is he a fool?

A. No; I said any fool knows who Mr. Burleson is. I think Mr. Burleson is very clever.

Q. Did he have any expert advice in this case?

A. Yes; he had the advice of Bethel, York, Stevens and Adams. I think the gods laughed at that committee.

Q. Were they the first committee appointed?

A. Practical committee.

Q. Were they the operating board?
A. Yes; everything went right back to that committee.

Q. Who was the operating board? A. That's the board I am telling you about.

Q. Wasn't Judge Lamar one?

A. Oh, Judge Lamar, and it was Koons, our friend, who shut up and closed the board:

Q. Mr. Lewis?

A. Yes, sir.

Q. Tell us how dirty it was.

A. Because they put through all the things they wanted to, and had never tried to do before, and still it had the Government's sanction.

Q. Go right on.

A. They put through all the things the Bell Company wanted them to.

Q. So the 5.72-

A. (Interrupting.) That was outside the Bell grab.

Q. Was that one of the dirty things?

A. That was one. Why wouldn't Bell-Q. Do you happen to know that 5.72 was less than the reserve for replacements that the Bell Company had been setting aside throughout the United States?

A. I don't know what they have been setting aside except from

the books.

Q. If it was less, Mr. Kelsey, in what way was it dirty to get 5.72 per cent?

A. The word "dirty" might not be the word; the word 1186 "clever" might be substituted. Let any company get 5.72 per cent and it will wax fat. The Bell Company has never known what to set aside until the last year or so, and have been just as much in the dark as anybody else.

Q. Mr. Kelsey, you have been testifying in rate cases for some

time?

A. Yes, and you have been cross examining me a little longer than usual.

Q. The question was, you have been testifying in rate cases for

some time?

A. Oh, since 1904.

Q. Now, during all of that time the words "reserve deprecia-

A. I never heard it until I originated it myself; that's the first record I have of it.

Q. The Bell Company want to follow your lead in that?

A. Oh, no. I don't own the Bell Telephone, and then they don't own me; I am raised up among the independent telephone interests.

Q. At least we agree on this, that some reserve is necessary?

A. I have given you some.

Q. We can agree on that?

A. Yes, sir.

Q. Now, the question is simply whether or not the Bell Company's

ideas of setting aside a percentage basis is sound?

A. I didn't set it aside on that basis at all; I am talking about that basis being the net result, and you come in here and talk about-I don't know what you mean.

1187 Q. You also know that if you had a building which you had had for a long time, say 20 years, that it would be prudent to set aside r per cent of the cost of-

A. (Interrupting.) My father's homestead is 40 years old and is

in magnificent condition today.

Q. You-father's homestead wasn't used for business purposes?
A. Yes; quite a family was raised there, and I think that is a

very serious business.

Q. Mr. Kelsey, just to refer again to this analysis of the \$11 on the basis of \$60, it would be something like sixteen per cent, and on the basis of \$200 a station it would be about 5 per cent. Now, we get away from the Bell Company in our talk, but the Bell Engineers have always kept these costs up on a percentage basis?

A. Why, it is a very necessary thing to do in order to establish

these rates you want.

Q. It sounds reasonable that if a plant is worth \$200 it would

have a larger need for a depreciation fund than one-

A. No; that's where you are wrong. Where a plant is larger you have better buildings, more beautiful buildings, more apparatus, and you have more chances of keeping the property up, you know,you have more appropriation and more chances for keeping their property new. The bigger the city the better the investment is and the better the chances are to pay more. In the Northwestern territory Minneapolis is first and then St. Paul second.

Q. Seriously, now, do you think that the depreciation rate for a small company should be the same as a large company?

1188 A. I am not talking about the depreciation rate. Q. Well, the rate for depreciation plus maintenance.

A. No; you keep talking about something that I am not talking about; I am talking about the money that I think will be enough when you need it.

Q. You are talking about \$11?

A. I think \$11 is enough throughout the years.

Q. But of course——

A. (Interrupting.) I am not talking about 1919; don't get it in your head that I am talking about the reserve rate for 1917—that's only incident to the proposition. You have been in business since when?

Q. We are talking about 1920.

A. No; you and I are not talking about the same thing.

Q. But your reserve has to be set aside from year to year?

A. From the beginning, Mr. Frank.
Q. If you began the plant in 1920—

A. I am talking about just like on this proposition-

The Master: Let's confine ourselves to his assumption.

(By Mr. D. A. Frank:)

Q. If you started a plant in 1920 with \$60 per station and I started one at \$200 per station, do you think that \$11 would be the proper amount for both plants?

A. Absolutely. I think you would both come out very nicely on

that theory.

Q. Just one more question, Mr. Kelsey, on that: In making up your figure of \$11 you took the total amount that was shown by the bill in what year?

A. All the years, Mr. Frank,—all the years—money that they

spent.

Q. And then divided it by the number of stations shown on the

back of the book?

A. No; that's the company that you call "Bell"——

Q. You intend to testify again in this case?

A. I don't know. I am going to Dallas, and presume I will have to come back and put in my finals.

Q. Will you make an analogy showing how you arrive at the \$11

rate and present it to us the next time you testify?

A. I don't know whether I will or not. I will try to do that if you will give me all of the A., T. & T. Company reports back. Are they in Dallas?

Q. Suppose you get the A., T. & T. reports there?

A. No

Q. They are probably in St. Louis or Dallas.

A. I would just love to have those. Q. Will you take all you find?

A No. In the meantime you can set up the gross and totals; you have got it yourself.

Q. You didn't have that in the Keystone case?

A. Yes; Telephony had it at that time, practically every report that was out back to—there wasn't any back of 1893.

Q. Will you take one or more of the reports, or as many as you can get, or as many as you desire, and show how you arrive at the \$11, and make an exhibit and present it to us next time?

A. I will be very glad, if you will furnish me the infor-1190 mation; I will give you everything that you ask for, anything in this whole proposition, if you will give me the information. I will take chances on it and come into court with it.

Q. You made the statement that \$11 was sufficient because you

got it from the Bell reports?

A. And measured up with all reports; I told you repeatedly in all the history of the telephone business in forty years had they followed this plan and started out they would have the money to do the work, and this company should have at all times enough money to take care of its needs.

Q. I am just asking you if you will furnish me the information?

A. I will give you anything that you give me the basis of. Q. Will you furnish us with a detailed statement?

A. If you furnish me the reports, I will.

Q. Showing how you arrive at this figure?

A. You bet I will, if you will give me the reports back to the beginning,-I want them all. You had them all back to 1903 at one time,-you had them here in Texas.

Q. What is the final report you have got there?

A. This is 1912—happens to be—and you have got my '17.

Q. No, I haven't had one of them at all.

A. I would prefer to accede to your request. You give me all these books, and let's give the Court the benefit of it on this proposition and if I am wrong, cut off. I want all your annual reports,all your statistics.

Q. Well, now long back?

back to-back to 1860. I don't know A. Well. thing-

Q. You arrived at the \$11 figure in some way? 1191

A. Well, I will show you if you give me the reports. You don't want that testimony.

Q. I want the testimony.

A. You don't like it-never have liked it. Q. Tell us just exactly what you do want?

A. I want all the statistical reports of the A. T. & T. Company back to the birth.

Q. You got it from their annual reports, didn't you?

A. Yes. sir.

Q. For what year?

A. Why, I had all the way from '0s to '17 at that time,-14 years.

Q. When you adopted this figure?

A. I adopted it way back in 1905 and have seen no reason to change my mind.

Q. You adopted it in 1905?

A. Oh, yes.

Q. It was considered necessary to have reserves back in 1905? A. You have got the dope, and let us have it here. I want it all.

Q. Well, you adopted it, you said, from annual reports?

A. I had enough of the A. T. reports to convince me, but I am liable to conviction if you can show me where I am wrong.

Q. You undertook vesterday to tell us how you arrived at \$11 per station.

A. Yes, I did.

Q. And I ask you to reproduce it for the Court.

A. I want your books of record, and I will give you a nice 1192 thesis on the proposition.

Q. You didn't have the books and records when you made

the \$11?

A. Yes, I have had them a great many times,—have had 25 or 30 of these copies. I will take you up on this proposition.

Q. Let me ask you the question, if you had the annual reports

for 1913, 1914, 1915, and 1912-

A. (Interrupting.) Oh, no. You didn't begin business in-1918? Would they throw any light on the Q. (Interrupting.) \$11?

A. Don't touch the issues,-give me all of them.

Q. I don't know what we can give you, but we want to give you all you want.

A. I will take up your proposition and give this court the infor-

mation.

Q. Can you,—if you had those reports, can you make a study and show how you arrive at \$11?

A. Certainly. Let's go back and be honest about the proposition. Q. You don't object to hearing your testimony that you gave in

any other case before?

Take the Birmingham testimony, and I am A. Certainly not. going to make you read it to this court about the terminal value. You made the start and I am going to finish it and make you come clean on this whole testimony proposition.

Q. Will you or not make an investigation and give us your figures

on that \$11?

A. When I get the statements I will give you a thesis on this proposition.

Q. We will do our best to furnish you the reports.

A. Your "best" is painful, sometimes.

Q. Mr. Kelsey, you say that a switchboard never wears out 1193 in six years?

A. Never has been any board that could possibly wear out, Mr.

Frank.

Q. In the Enid case didn't you testify that a switchboard wears

out in six years?

A. They had in the Enid case an Old Kellogg switchboard when the Bell Company bought it, and the Bell engineers scrapped it, and it was probably used somewhere else. You fellows never scrapped that board but moved it somewhere else as it was just as good as it was when it went in.

Q. Let me read your testimony in the Enid case: "The Indianapolis people after keeping up their switchboard as best they could found themselves utterly face to face with a new switchboard, found themselves absolutely face to face with \$480,000 new money to get that switchboard and put that plant up. The question is asked,

'Where is your renewal reserve'? Had they adopted their \$5.50 per telephone per year from the very start they would have had just enough money there to pay \$480,000. That was my first demonstration of this Fisk and Robinson \$4 reserve".

A. Sounds good, doesn't it?

Q. "That was my first demonstration of this Fisk and Robinson \$4 reserve."

A. Thank you; go right on.

Q. Then the question was asked you, "That condition was brought about by what?" Answer: "The switchboard wore out." Question: "How long in service?" Answer: "About six years."

A. You know why it wore out?

Q. Question: "It had been such a busy board it had actu-1194 ally worn out? Is that the way with switchboards?" Answer: "There are switchboards in Philadelphia in seven years." Question: "That was one of the Kelloggs that wore out?" Answer: "Yes, sir." Question: "You would like to qualify what you said in regard to the quality of the goods?" Answer: "We are making better stuff now. What we made eight years ago is not what we make today." Question: "So you would not ask this commission to take what the Kellogg made eight or six years ago as a basis to make an estimate on, would you?" Answer: "No, sir." Question: "Then if your company is making better boards now, and made four boards a short time ago, this commission would not be warranted in basing estimates upon stock of that kind?" Answer: "Your switchboard is a very small percentage, of course, not more than 20 percentage in art—then you have 40 per cent." There is an illustration of a switchboard that did wear out?

A. Well, now look here! What about an automobile built in 1902? Would you drive one around the streets today? It is the same with switchboards—the change in art,—and it never wears out.

Q. But you made a statement in your testimony that switchboards

never wear out?

A. They don't; and for this reason: You change them on ac-

count of the change in the art before they wear out.

A. There is your testimony of where one wore out, and it took \$480,000 to replace it, and they had no money in their reserve fund? A. And which, at the rate of a certain amount, took care of it,

and did.

Q. And what is that amount?

1195 A. I have tried always to demonstrate that figure, and have been trying to demonstrate it here.

Q. So reserves for replacements and switchboards are absolutely

essential?

A. Say, I preached that before you folks did, years ago through Telephony. You will find that a bank has to have reserves-we have all got to have reserves—an individual has got to have them or be in the poorhouse.

Q. Mr. Kelsey, if one plant is 75 per cent underground and another 75 per cent overground, will it take the same amount of re-

serve for both?

A. Certainly; but it would leave one with a little different reserve.

Q. In other words, if a man's plant was all underground, everything was underground and nothing was where the wind could get to it, you would allow that plant the same amount of reserve for replacements that you would one entirely exposed to the weather?

A. Certainly I would until I knew better.

Q. Well, J. J. Carty.

A. Is that so? I presume he is; he is a hired man.

Q. He is vice president of the American Telegraph & Telephone Company.

A. Yes, sir; that sounds very good.

Q. And C. A. Gates.

A. Charlie Gates is a wonder. 1196

Q. And F. L. Rhodes.

A. Well, Francis Leland-I wouldn't consider him as good a telephone man as Mr. Gates.

Q. And Mr. Hoag.

A. I never heard of Mr. Hoag.

Q. You never read the testimony in this case?

A. I am not interested in anybody's testimony in this case. They are putting me up for you to tear to pieces.

Q. Mr. Player?

A. Oh, I have known George a long time. Q. Those men are practical engineers?

A. Is George a practical engineer?

Q. Isn't he?

A. I don't know.

Q. Is Mr. Gates a practical engineer?

A. He is a theoretical engineer, but he is a hired man; Pennellthere is a hired man.

Q. Is he a practical engineer?

A. Oh, yes.

Q. Now, if these men think that a larger depreciation ought to be set aside for a plant exposed to the weather, you disagree with them?

A. Yes, because Mr. Pennell does what the company wants him: to do-that is, what they want him to think; tell that to Pennell. Charlie Gates, I believe, will agree with me in his private opinion; you can't tell me that he won't, but a hired man never can be classed as an engineer.

Q. Is George Player a hired man?

A. I odn't know,—he has been. 1197 Q. Topping?

A. I helped start Topping and tried to throw him a little business,-I know all these boys from birth.

Q. You know them, buth when they testify that the percentage

A. (Interrupting.) They don't know what they are talking about. Topping dosen't know what he is talking about,—he trained in your little school. If you will give me a boy for four years he will talk Kelsey all his life.

Q. How many are talking Kelsey in the United States?
A. A lot of them,—may be more than are talking Frank.

Q. Frank is not an engineer; he is only just a lawyer. Q. Mr. Kelsey, you have had quite a good deal of experience as an engineer. What do you say is a reasonable fee for engineering a telephone plant?

A. Well, any reasonable fee is all you can get.

Q. Well, would 10% be a reasonable fee?

A. A lot of engineers would love to get that, if they could.

Q. Well, what is this engineering society, American Society of Civil Engineers?

A. I have forgotten all about it. I don't know what you are

talking about.

Q. Well, engineering societies have fixed on six per cent, haven't

they, as an engineering fee?

A. Well, they may have as a whole, but each one of them will sneak out and take it on a two per cent basis rather than lose it. I don't think there are any telephone plants being engineered on the outside. That business is dead.

1198 Q. Well, you would be open to employment?

A. No, sir.

Q. As engineering a plant? A. No, sir, i have quit.

Q. You wouldn't undertake to engineer a plant?

A. I would not.

Q. Mr. Lyndon could engineer a plant?

A. I presume that is Mr. Lyndon's business. You couldn't hire me.

1199 Testimony in Support of Assignment of Error No. 5, Relating to Rate of Return.

GEORGE L. WILSON, a witness for the plaintiff, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

Q. State your name please.

A. George L. Wilson.

Q. How long have you lived in Houston?

A. Since June 1, 1914.

Q. What business have you been engaged in?

A. Real estate. Buying and selling property, and making loans on real estate.

Q. Has that been your principal occupation?
A. It has been my exclusive occupation.

Q. I wish you would state to the court in a general way just what

your qualifications are that enable you to judge as to the value real estate in Houston?

A. I may state that real estate has been my sole occupation all n

life. I was born and brought up, you might say, in a real esta office, in my father's office at Joliet, Illinois, and I operate there and at Chicago, and while in Chicago on two or through

different occasions I have been appointed by different court to appraise property for receiverships, and cases of litigation.

Q. You do not remember what courts they were, and when the

were?

A. I cannot recall now. It has been several years ago, but it most of the property was located on the South Side of Chicago, as since coming to Houston I have been following real estate and locations, and I have been called on by private investors in several instances to appraise real estate for loans, and in one instance I we called on as a witness, expert witness, but never was put on the station that particular suit. That was the only suit I was ever called here in Houston.

Q. Have you a real estate office here in Houston? A. Yes, sir, 617 Union National Bank Building.

Q. You have had that office ever since you came to Houston?

A. Yes, sir. Q. Since 1914?

A. Yes, sir, I haven't had that particular office, but have been that same building ever since then.

Q. You have operated in real estate here in Houston sin 1914?

1201 A. Yes, sir

Q. Mr. Wilson, in stating your qualifications you testif you were also in the loan business?

A. Yes, sir.

Q. Loaning money on real estate?

A. Yes, sir

Q. I want to ask you what rate, or at what rate would a loan

made on business property in Houston?

A. Usually around six per cent; that is, well located busin property. You might say down-town property. That is the star ard universal rate, six per cent.

Q. At what rate would you loan money on residence property

Houston?

A. On South End property—

Q. That would depend on the locality?

A. Yes, sir, entirely. On South End property where it is us to loan about fifty per cent on the property, you can reasona figure on seven per cent. In the Heights and the Fifth Ward would have to figure eight per cent. The rate is entirely based the merchantability of the property. How much the man, in event he had to acquire the property under foreclosure,—what probably chance of selling it immediately and getting his motout of it.

Q. You don't think you could place a loan on residence property for less than seven per cent?

A. On the basis of fifty per cent of its value, I don't think

I can.

Q. These loans you are speaking about would be first-lien loans?

A. Absolutely.

Q. Now, at what rate would you lend money on farm property in Harris County?

A. Improved farms?

Q. Yes, sir.

A. I am making one loan now of about thirty thousand dollars out near Genoa on the basis of seven per cent. Ordinarily farm property runs between seven and eight per cent. I made one loan of a hundred thousand dollars near Webster in February on the basis of eight per cent.

Q. February, 1919?

A. Yes, sir.

Q. Now, on unimproved farm property, what is the rate?

A. The rate is eight per cent on that. It all depends entirely on the location.

Q. Do you know whether or not the rate would be different on cattle ranch property, land used for the purpose of a cattle ranch?

A. In Harris County?

Q. Yes, sir.

A. No, sir, it wouldn't make any difference.

Q. It would be around eight per cent?

A. Yes, sir. The Federal Farm Loan bank, however, is making on improved lands loans on the basis of 5½ per cent, forty years' time, but the private investor never would agree to make such a rate. I never have been able to make a rate like that.

Q. You have never been able to get the money at that rate, have

you?

1203

A. No, sir. The investor will not loan his money out at that low rate. In one instance I had a client, Mr. John Gaillard of Goose Creek, he makes all his loans at seven per cent. I made a loan for him of ten thousand dollars on the 23rd of December at 8 per cent, but on South End property he has been making recently a seven per cent rate. He used to make it at six, but he said at the purchasing power of the interest on the basis of six per cent he couldn't get along with it, and he had to raise the raté one per cent.

Q. Do you make any loans on oil property?

A. No, sir, not as such. I have made a loan on prospective possible oil property at Goose Creek. I made one loan down there for six months, on Mr. Holliday's land——

Mr. Howard: I don't think this record should be encumbered with instances of individual loans Mr. Wilson has made. He has already stated the general rate from a good many standpoints.

Q. Mr. Wilson, I want to ask one more question. What determines the rate on which you will make a loan on property, on

land, does the risk enter into it?

A. As a rule, yes, sir. What they call the moral hazard, the personal element, and then again the possibility of selling it in the event the lender has to take it in. In other words, the merchantability of the property, and the accessibility of the property. You take property away from transportation and away from roads, it will naturally take a higher rate than property that is readily accessible.

Q. The risk is an important element?

A. Yes, sir, very decidedly.

Q. You have been speaking of first-lien loans. What about second lien loans, what rate will apply to those loans on the class of property you have been testifying about?

A. That depends largely on the amount of underlying first-liens. If you have got a loan of fifty or sixty per cent on first mortgage,

your second loan is going to cost you a lot of money. In but one instance I have confined myself exclusively to first 1205 lien loans.

Q. What do you mean by "a whole lot of money?"

A. Probably a short time loan will draw eight per cent, and as high as ten or fifteen per cent.

F. M. Law, called as a witness by the plaintiff and testified 1206 as follows:

Direct examination.

Questions by Mr. D. A. Frank:

Q. Will you please state your name to the Court?

A. F. M. Law.

Q. Where do you live, Mr. Law. A. Houston.

Q. What is your business?

A. Vice-President of the First National Bank. Q. Is that the First National Bank of Houston?

A. Yes.

Q. What is the capital stock of your bank?

A. \$2,000,000.00.

Q. That's the largest bank in Houston, isn't it?

Yes, sir.

Q. How long have you been in the banking business?

A. Since '97,—about twenty-three years.

Q. Most of that time in Houston?

A. No, between five and six years in Houston.

Q. Are you familiar with the interest rates charged in Houston and the return usually paid upon capital invested in business 1207 enterprises, in this city?

A. Yes, sir.

Q. What is the usual rate of interest charged in Houston?

A. Well, prime commercial paper six and three-quarters and seven per cent,-that's the best class of commercial paper.

Q. What is the usual rate of interest charged on real estate loans in the city of Houston at the present time, Mr. Law?

A. What classes of property?

- Q. Well, take the very best class of business property on Main Street in Houston?
 - A. You are apeaking now of a new loan?

Q. Yes, sir, a new loan.A. To be negotiated on this market?

Q. Yes, sir.

A. Seven per cent, I would say.

Q. If a man started to put up a steel building on Main Street he possibly would have to pay as much as 7% for a first mortgage loan?

A. I think so, on this market.

Q. On what per cent of appraisal would that loan be fixed if granted?

A. Fifty or Sixty per cent.

Q. That is if a man were putting up a building on Main St. that would cost a Million Dollars, that is if that was the amount the building was appraised at,-a Million Dollars, he could bor-1208 row around \$500,000 or \$600,000?

A. Yes, sir.

Q. And at what rate of interest?

A. Around 7%. I happened to know of some transactions that have been consummated here in the last few weeks, at that rate.

Q. What per cent would he have to pay if he borrowed money to put up a residence, somewhere in Houston?

A. Well, he would be compelled to pay a little more, from 1% to 2% more.

Q. And that would amount to 8% or 9%?

A. Yes, sir.

Q. Do you happen to know anything about farm loans?

A. No, I know very little about farm loans.

Q. Where capital is invested in business largely, Mr. Law, in the City of Houston and not secured by a mortgage, would the rate required to get the money be more or less than a secured loan?

A. Well, of course, they would charge more, other things being

considered.

Q. Suppose, Mr. Law, that a telephone company were organized in the City of Houston to build and operate a telephone system in this city, such as the Southwestern Telegraph & Telephone Company now has, requiring the investment of six or seven million dollars,

what returns would have to be paid upon the stock in order

1209 to sell the stock in Houston?

A. Well, that's rather a hard question to answer. I would say a minimum of 8%, and I doubt if it could be sold on that basis. Q. You think it would take at least 8% to sell it?
A. Yes.

Q. What portion of the stock do you think could be sold in this city?

A. Well, I think, a very small proportion.

Q. That is-

A. (Interrupting.) I don't think this market would absorb securities of that kind at this time.

Q. Well if you make the rate high enough at this time?

A. Oh, yes, if you make the rate attractive I have no doubt it could be sold.

Q. What rate would you have to make it in order to attract money

here in Houston?

A. Well, I can't give you a catagorical answer to a question like that; I would think though that to make it attractive you would have to hold out a reasonable hope and expectation of around 10% dividends,-10% returns.

Q. Would the money that was obtained for such an investment have to be obtained in competition with other investments, in the

City of Houston?

A. Oh, yes, naturally. 1210

Q. And would have to pay about as high a return as other

investments in the City of Houston pay?

A. Well, of course, more things are to be considered in looking at an investment than the mere matter of returns; On some classes of investment an investor will be satisfied with a smaller return than he would on other classes; those that are of a very conservative nature, an investor would naturally be satisfied with a smaller return on them,-those that have less hazard to them.

Q. In your judgment is a public utility subject to more or less

hazard than the average business in a community?

A. Well, I am not an expert on that, but am rather inclined to believe it would be more of a hazard.

Q. And would require a greater per cent of returns?

A. Yes, sir.

Q. How would you compare the hazard of an investment in the stock of a telephone company in the City of Houston with a loan on real estate, with a 50% appraisal in the City of Houston, which would be the more desirable?

A. At the same rate of return?

Q. Yes.

A. I believe I would rather have the real estate. That's a matter of opinion, of course. 1211

Q. It would be safer, would it?

A. Yes, if the real estate was properly appraised and only 50% loaned on it, I don't think there is anything safer than that. I think it is a safer investment than the corporations you spoke of.

Q. How would the risk compare between an investment of, say, \$500,000.00 in the stock of a telephone company operating in the City of Houston, compare with an investment of \$500,000.00 in bonds of the same company, which would be the more safe,-more secure?

A. I think the bonds where they are properly drawn are consid-

ered more secure, generally speaking, than stock. Did you ask me now how I would compare this with real estate loans?

Q. Well, How would you?

A. Well, I would stick to my original statement, that I believe that real estate loans against a property that's properly appraised, and on the basis of not to exceed 50% being loaned, is the safest loan we have.

Q. In other words, if you had a customer of your bank who wanted some financial advice and he had a chance to invest \$500,000 in the stock of a public utility in Houston, or \$500,000 in a real estate loan, there wouldn't be much doubt in your mind which you

would advise at the same rate of interest?

1212 A. Well, of course, it would depend on the particular case; an investment in the bonds might be a more easily liquidated transaction,-they might be more easily converted.

Q. I asked you as to stock. If the investment is in stock there

wouldn't be any doubt as to which would be best?

A. No, I would think the real estate loan would be better from

the standpoint of safety.

Q. Under the circumstances, Mr. Law, you think in order to sell stock in a company, such as the Southwestern Company, operating in the City of Houston, alone, that it would take at least 10% to attract the money, do you?

A. Well, I think I said a minimum of 8%. Q. Well, that would sell some of the stock?

A. But in order for you to right now, on this market, place any considerable amount of any stock, I believe, it would have to carry with it 10%.

Q. Ordinarily the way these things are done is to give a bonus of

stock, isn't it, Mr. Law?

A. Yes, that's very frequently done, but whenever I find that's the case though, I don't want any of the stock.

Mr. D. A. Frank: You may have the witness.

1213 Cross-examination.

Questions by Mr. Howard:

Q. You have been in Houston quite a number of years, between ten and a half and-

A. (Interrupting.) Between five and six years. Q. Where did you come from here, Mr. Law?

A. Beaumont.

Q. Well, you have been in this South Texas country for a good many years?

A. Yes, I have lived here all of my life.

Q. Mr. Law, your bank has during the past five years loaned thousands of dollars at a rate of 6% interest, haven't you?

A. Yes, sir.

Q. You are loaning some now at 6%?

A. Very, very little.

Q. Those loans were not even real estate loans, were they?

A. No, they were short time commercial loans.

Q. Now, you loan a great volume of money to carry mercantile concerns, and industrial concerns, don't you, Mr. Law?

A. Yes, sir.

Q. And there you have, so far as the loan is concerned, in speaking of security, in the sense of the security you have, you have no security at all, except the individual, the party and the business standing and whatever you can get, in your judg-

ment, to bear upon the loan?

A. Yes.

Q. These loans, all bank loans, I don't mean to say every loan, but bank loans in their nature, ordinary bank loans, many of them have quite a considerable element of hazard, have they not, Mr. Law?

A. No, sir, we don't think so.

Q. Well, you frequently do lose money, in fact, all banks do in quite substantial amounts, on failures of different mercantile concerns, particularly in the days when we had failures, before everybody had money? We, of course, all know that we have had comparatively few failures during this inflated period.

A. Yes, very few.

Q. But prior to that the Bankruptcy Court was congested up to four or five years ago?

A. Yes. Q. You were often a creditor in a bankruptcy proceeding, were

you not, that is, you in connection with your bank?

A. Yes, as I say, my experience in Houston has only been a little more than five years in duration and just before I came here there was a good deal of that sort of thing; there has not been very much since I have been here.

Q. But that hazard is present more in commercial loans, 1215and in ordinary bank loans than it is present in loans that are

secured by liens upon property, that's true isn't it, Mr. Law?

A. No, sir; I don't think so.

Q. Well, you have sustained quite frequently a substantial loss in a loan, have you not, and you charged off different sums, twenty thousand, thirty thousand and fifty thousand dollars?

A. Well, occasionally, but not frequently. We would go out of

business if we did that frequently.

Q. I understand, but then you rarely ever hear of anybody on secured loans losing even that substantial amount of money, do you, Mr. Law?

A. I can't agree with you on that, because sometimes your se-

curity turns out to be quite a disappointment to you.

Q. As between fairly well secured real estate and ordinary commercial loans, which do you consider the safest loan from the standpoint of safety?

A. Well, as I stated awhile ago, I think there isn't any security quite as sound and dependable as good real estate loans where properly taken.

Q. Do you remember that probably for the last fifteen years in this community, that 8% was considered a fair rate for ordinary small

loans from \$1,000 to \$5,000 on real estate security, and that 10% was the amount charged by these people who built houses and took two or three hundred dollars down. You are familiar with that kind of transactions?

A. Yes, sir, that's true.

Q. Now, during the last three or four years, hasn't there been a downward tendency and hasn't the ordinary well secured loan been placed at 7% pretty much, and that it was difficult to get 8% on any fairly well secured real estate loans?

A. Yes, that's true up to a short time ago.

Q. Up to a short time ago when there was some ruling of the Federal Bank that has made money a little more difficult to get, they put on a little tightening up process, about a month or six weeks ago, and had a tendency to increase the rate a little?

A. Yes, and even a little before that rates were on the increase. Q. A great many concerns are loaning money here in Houston

and in the vicinity of Houston, at a rate as low as 6%?

A. I don't know of any.

Q. Well, I will put it a little differently, for the last two years they have been loaning money around 6%?

A. Yes, I have known of that. Q. And some as low as 51/2 %?

A. I don't know of anything lower than 6%, there may 1217 have been some lower.

Q. The average long-time loan on business property here that was placed more than sixty days ago, will hardly carry over 6%, will it, upon business property?

A. Longer than sixty days ago. I don't think any real estate

loans in Houston'-

Q. (Interrupting.) Well say six months ago?

A. The best real estate loans went at 6% up to say about six months ago. I think you are correct about prime real estate loans.

Q. And there was a kind of a feeling until that time that if a bank charged more than 6% it was charging just a little bit more

than should be charged?

A. Now, I hardly think it is fair to make a comparison between,you understand that a National Bank does not make real estate loans, they cannot and do not, and, therefore, it is hardly fair to make a comparison between a concern which makes real estate loans, and individuals, and corporations, and a bank that makes commercial loans. The bank does not depend altogether on the rate of interest received. We really have another compensation. We rarely, if ever, lend money in considerable amounts,-commercial amounts, where we don't have what we call a "Compensating Balance" against it and so we are getting 6%, and also are getting

the use of a considerable amount of the loan at the same time.

Q. In other words, you loan a man his own money?

A. Yes.

Q. But the prevailing rate on a real estate loan up to a short time ago was 6%?

A. On a prime loan, yes.

Q. Mr. Law, in regard to public utilities and building bonds and stocks, of course, a stock certificate in any corporation, as you know, merely evidences a part interest or share in the assets of the concern?

A. Yes, subject to the debts. Q. Just evidences part ownership of the assets of the company?

A. Yes.

Q. And of course, the value of the shares depends entirely upon the assets?

A. Yes.

Q. And that is true with reference to a public utility?

Q. And if a public utility is conservatively financed, and has dollar for dollar well invested in its assets, the shares sell more readily than one not so wisely financed and where the assets are not present?

A. Yes. 1219

Q. Then the same way with the bonds,-if any mercantile or industrial or public utility enterprise,-suppose that the men going into it are men of some means, does it not ordinarily?

A. Yes.

Q. In other words, you don't undertake to separate big commercial concerns, or big industrial concerns, or big public utility concerns?

A. No.

Q. You pre-suppose that the men going into it have some means?

A. Yes, they certainly should have.

Q. And if they get together and pool a certain amount of assets and put into any one of these enterprises those assets, and then undertake to further add to their business by means of the issuance of bonds, the returns at which those bonds will sill will depend almost entirely upon the proportion that the bond issue bears to the assets, will it not?

A. Well, I wouldn't put it quite that strong. It would depend

very largely on that, yes.

Q. Then if a telephone company or a street railway company puts in money, and it is honestly and well invested, say, to the extent

of \$3,000,000, and they issue a Million and a half in bonds, and then extend their plant,-put the money back into the service, those bonds would sell much more readily than if they undertood to issue a Million Dollars worth of bonds?

A. Yes, the security would be better.

Q. So then in its least analysis this difficulty about discounting bonds and paying commissions, and exhorbitant commissions, through one source or another, depends upon the manner in which the company is financed and its affairs are handled. Those things are things that you have to consider in determining the sale of any bond or any security?

A. Well, now, it would not,-why you can't stop right there

and not go any further; certainly a financier will be very much interested in his security, and if the bonds were not in excess of 50% of the real value of the property,—he wants to know if the security is there,—a reasonable security, and then they will go further and he wants to know about the returns, wants to know if the money is needed for that business, and whether or not it will earn money.

Q. Just about how many loans do you make on security at all? And then whether or not a man is a prudent man instead of a spend-thrift, in making loans, you always consider these things, do you

not, Mr. Law?

A. Oh, yes.

Q. One large trouble then about this difficulty with reference to the excessive cost of money might be attributable to the fact of the uncertainty of every paying that bond as well as to its returns?

A. Yes.

Q. And where it appears that a concern has issued bonds to the full value of its property, or perhaps a little more, as is frequently the case—

A. (Interrupting.) They certainly would have to pay more if

the bond wasn't well secured.

Mr. Howard: That's all, Mr. Law.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. Have you heard what the Gas Company had to pay for their refunding bonds, recently?

A. No, sir; I don't believe I have.

Q. Did you say that the interest rate was going up or going down in this community?

A. Well, it's going up. I look for it to go still further up.

Q. You look for it to go higher than it is now?

A. Yes.

Q. What is the greatest security when you make a commercial loan,—what is really the big security,—the real security in ordinary commercial loans?

A. Well, the assets and the character of the business; the assets of the business and the character of the men who are run-

ning it.

Q. Mr. J. Pierpont Morgan said that character was the biggest asset he had on his loans. I think that has been quoted by a great many bankers?

A. I never did believe he said that.

Q. That still is a very large element in making loans, though?

A. Oh, yes, so much so that no banker wants to have anything to

do with any risk that he does not consider good morally.

Q. A commercial loan is made for a short time, also, isn't it?

A. Yes, sir.

Q. Whereas, if the loan is made on real estate a man usually has his money tied up for several years?

A. Yes, sir.

Q. Five or more years?

A. Yes, sir.

- Q. If you loan a man money in a commercial loan, when you come to collect it you always get 100% of the loan if you collect it at all. That's what the face of the note is for?
- Mr. Howard: If he collects it all he is sure to get it. 1223

(By Mr. D. A. Frank:)

Q. Well, that's true.

A. I am not sure that I got that question.

Q. If a man borrows \$500.00 from you, you expect to get \$500.00 back besides the interest?

A. We get the interest in advance, and so we get that, you know,

whether he ever pays the note or not. Q. And then you get the \$500.00 back?

A. Yes, sir.

Q. But if a man buys \$500.00 worth of stock, he may have an interest in the business, but if he starts to sell it he might get considerably less than \$500.00 for his stock?

A. Yes, I have done that several times myself.

Q. And so that is one of the things that you take into account in comparing a commercial loan with an investment in stock?

A. Yes.

Q. What do you mean by a prime real estate loan, Mr. Law?

A. Were, I mean, the best of its kind.

Q. You mean a loan on fifty or sixty per cent,-Do you mean a loan on a fifty or sixty per cent basis on a building on Main Street?

A. Well, if you are considering business property in Houston, of course, that would be the best. However, there would be plenty of other business property here in Houston that might be considered a prime loan and not on Main Street.

Q. But it would be somewhere pretty close around?

A. It would have to be well located.

Q. And would have to be a piece of property that was rented very easily?

A. Yes, would have to pay a good return.

Q. And that kind of a loan would carry, you say, 7%?

A. I don't think and don't know of anything now that you can get for less than 7%.

Q. And on residence loans and loans that are not prime a man

would have to pay 8% or 9%?

A. Eight or nine per cent. I happened to be talking this morning to a man connected with one of the biggest corporations in Houston, who has been lending money on business property and he said they would raise their rate to 8% or 9%.

Q. Mr. Law, if a corporation was organized in the City of Houston to build a plant like the Southwestern Telegraph & Telephone Company, as a local concern, it couldn't possibly be financed in Houston if it cost as much as \$6,000,000, it couldn't possibly be financed, that is, you couldn't get that amount of money together in Houston, could you?

1225 A. No.

Q. You would have to get the small investor in as well as the large?

A. Well, I don't think it would be possible to finance a thing

like that if you would get the whole bunch in right now.

Q. What was the largest amount gotten up here during the Liberty Bond Loan Campaigns, in any one loan?

A. I think around Ten Million Dollars.

Q. And that was during the war when the people had their patriotism aroused?

A. Oh, yes; you bet.

Q. And it took everybody in town to get that?

A. Yes, and then they had to have a black board down there on the Court House Square.

Q. And it was a very difficult matter even then to sell Ten Million Dollars' worth?

A. It was that.

Q. Would a company that had Three Million Dollars' worth of assets, as assumed by Mr. Howard, that started to put out a Million and a Half Dollar Bond Issue, be able to get a very cheap rate, due to the fact that they were only issuing a Million and a Half Dollars' worth of bonds and due to the further fact that they had Three

Million Dollars' worth of property?

1226 A. No, I don't think so,—don't think they could get cheap money.

Q. It would be necessary first to have good security, and necessary in the next place to pay a fair return?

A. Yes, sir.

Mr. Howard: My proposition is, when you hawk around securities, where bonds are issued to the limit, and in excess of the assets, why, of course, if you are going to have to hawk them around for sale, but I was asking Mr. Law if that would not tend to eliminate the excessive charges.

Mr. D. A. Frank: I believe that's all, Mr. Law.

Recross-examination.

Questions by Mr. Howard:

Q. You would not be as much interested in the returns if you had a Million and a Half loan on Three Million Dollars' worth of assets, as if you had a Three Million Dollar loan?

A. Of course, the better the security the lower the rate.
Q. And the less you would be interested in the returns?

A. Yes, sir.

1227 Q. You spoke about a big institution going to 9%. Have we got an institution of that kind outside of the Bankers' Trust Company in Houston that is charging 9% at this time?

A. I was talking to the President of a corporation this morning, and he told me that he felt like he had been sleeping on his rights and that he was going to increase his rates to 8% and 9%.

Q. It was not the Bankers' Trust Company?

A. No, sir.

Mr. Howard: That's all.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. He asked you if it would be easier to float a Million and a Half Dollar bond issue on Three Millions Dollars' worth of assets than it would be to float a Three Million Dollar Loan. Could you possibly float a Three Million Dollar loan on Three Million Dollars' worth of assets?

A. I don't think so.

Q. It would be virtually the same as buying it?

A. Yes, sir.

Mr. D. A. Frank: That is all, Mr. Law. I thank you very much.

1228 The Master: Mr. Law, what, in your judgment, will be the trend of commodity and labor prices during the immediate future, say, extending over a period of from three to five

years, from one to five years?

A. Why, your Honor, I of course, don't pretend to be a prophet, but it looks to me like we haven't yet reached the peak of labor prices or the prices on commodities. Those prices are going higher and then I believe, I hope that the decline from that high peak, whenever we get it, will be slow and gradual, but we will never get down to where we were before the war.

The Master: That's all.

Recross-examination.

Questions by Mr. Howard:

Q. Of course, Mr. Law, that can't be but a hazard, which any of us can give?

A. Just a guess, and it is not worth any more than anybody else's.

J. W. Hoopes, a witness for the plaintiff, after being duly 1229 sworn, testified as follows:

Direct examination.

Questions by Mr. D. A. Frank:

Q. Will you please give your name to the stenographer?

A. J. W. Hoopes.

Q. Mr. Hoopes, where do you live?

A. Houston.

Q. How long have you lived in Houston?

A. A year and two months. Q. What business are you in?

A. Bank.

Q. In the Banking Business?

A. Yes, sir.

Q. What bank are you connected with?

A. The South Texas Commercial National-Q. What position do you hold with them? A. Vice-President.

Q. How long have you been engaged in the banking business?

A. Thirty-one years.

Q. Where have you been so located?

- A. Well, I started in the City of Rockport; then I was in Gonzales, then at Manor, and Austin, and in Galveston, and four and a half years with the Federal Reserve Bank of Dallas, and then I 1230 came here.
- Q. You came from the Federal Reserve Bank to the South Texas Commercial National?

A. To the South Texas Commercial National.

Q. Are you or are you not familiar, Mr. Hoopes, with the interest rates charged in Houston, and the return usual upon capital invested in business enterprises in the City of Houston?

A. Why, I think fairly so, yes sir.

Q. What is the usual rate of interest charged on commercial paper in the City of Houston, Mr. Hoopes?

A. From 61/2% to 7% and 71/2% and 8%. Q. What do you mean by a commercial loan?

A. Short time loans where the assets of the company shows a sufficient amount of liquidated assets to justify a commercial loan. what we call quick assets.

Q. Where a customer comes around and borrows a thousand dollars for three months, you call that a commercial loan?

A. Yes, sir.

Q. And the per cent of interest charged ranges from 61/2 to 71/2%?

A. Yes.

Q. What is the usual rate of interest charged in this city on real estate loans, and upon what per cent of the appraised value are they made upon business property?

A. Why, of course, I am not as conversant with that as 1231 with the other, because the only loans of that character that I have heard of were in Beaumont, and the customer wanted 8% on business property, that was the rate specified and I am quite sure that the same person would want 8% here. I think, however, from what I have learned here that high grade loans have been around the neighborhood of 7%.

Q. That is, if a man wanted to make a loan on a first-class piece of business property on Main Street, the rate of interest would be

7%, -7% to 8%?

A. Yes, I think it would be 7%, I believe it would.

Q. Would that be just straight 7% or would there be some expense

in making the loan?

A. Of course, there are always expenses paid in any loan, but those are paid by the man who makes the loan,-that's not up to the man who makes the loan.

Q. The man who makes the loan has to pay the expenses of mak-

ing the loan?

A. Yes, sir.

Q. What is the rate of interest charged on real estate loans, not prime?

A. Well, they run-I know of several of that kind and they run

from eight to ten per cent.

Q. That is in the City of Houston?

1232 A. Yes, sir.

Q. What connection, Mr. Hoopes, is there between the rate of interest charged and the risk and hazard of the business upon which the loan is made?

A. Well, it naturally follows that the greater the risk the higher

Q. There will be some business then in which the risk is so great that people wouldn't very easily put money into it?

A. Oh, yes.

Q. Would a telephone company, organized in the City of Houston, with six and a half or seven million dollars of capital to build a plant such as the Southwestern Company has in the City of Houston,-what return in your opinion would have to be paid upon the stock in order to sell the stock in the City of Houston?

A. Well, I don't know. I question very much whether you could

finance a company like that here,-I don't believe you could.

Q. Well, if the company has a rate sufficiently high to pay a fair return, and it was reasonably certain that City Commission were not going to try to cut rates down to below a fair return, would it be possible to get some money here?

A. Possibly so, if you got the rate high enough to make it attractive, but I don't know that you could finance a company of that kind here. My observation is that you could not very

well do it.

Q. If you undertook to do it, what per cent would be the minimum rate of return necessary in order to attract local capital to the stock of such an association?

A. I think it would have to be mighty certain that it would pay from eight up to ten per cent.

Q. How much stock do you think they could sell in the City of

Houston if it was certain that it would earn ten per cent?

A. That would be a mere guess on my part, I don't know, really I doubt if you could place it.

Q. And you doubt if it could be placed at even ten per cent?
A. You would have no more assurance that you could get it at

that rate; it is always a question of what the terms are.

Q. What is your opinion of financiers generally with respect to the risk that a man takes when he puts his money into a plant

like a telephone plant or any other public utility?

- A. Well they always take it that a public utility is a risky proposition, and it is always subject to an incoming administration, which always makes it more hazardous than any other class of business.
- 1234 Q. That is regulation is looked upon as one of the hazards of the business?

A. Yes.

Q. Well, any money that should be invested or should be obtained for such a company in the City of Houston would have to be obtained in competition with other businesses in Houston, would it not?

A. Oh, sure.

Q. And a man would not put his money into the telephone business, if he could make more money and have a safer investment in some other line of business?

A. No.

Q. The City of Houston is a rather prosperous city, isn't it?

A. Yes, sir; the bank deposits here run around in the neighbor-

hood of \$100,000,000,00 about second in the State.

Q. Would you consider the hazard of an investment in a public utility subject to regulations greater or less than an ordinary business venture?

A. I think it would be greater.

Q. How would you compare the hazard of a public utility—the investment in the stock of a public utility in the City of Houston with a loan on real estate on the basis of a 50% appraisal?

1235 A. Why, the real estate loan would be preferable, very

much so,-less hazardous, I think, by far.

Q. Well, if a man could loan his money at 7% on a prime real estate loan, or at 8% or 9% on real estate with a first lien, that would not be called prime, like a residence piece of property, would he or not be likely to prefer that to putting his money into the stock of a public utility?

A. If he was a sensible investor, I think he would.

Q. Even on a 10% basis for stock, you think he would prefer the real estate loan?

A. Yes, an investor looks on the security and the absolute return more than on a slightly increased rate.

Q. And in order to sell the stock of such a company, estimated at

Six and a Half Million or Seven Million Dollars, in the City of Houston, there would have to be a reasonable assurance that the rate of return would be more than 10%, and that it would probably be 11, 12 or even 15%?

A. In order to attract that amount of money, I believe it would be

necessary.

Mr. D. A. Frank: That's all.

Cross-examination.

Questions by Mr. Howard:

1236 Q. Mr. Hoopes, did you ever run a country bank?

A. Yes, sir; that's all I know anything about.

Q. Country banks,—they don't think anything less than a rate of 10% is interest, do they?

A. Oh, yes, sir.

Q. They do? A. Yes, sir.

Q. How long have you been engaged in a City Bank?

A. Well, I was five years in Austin and during that time I was connected with two country banks, which I examined and went into about two or three times,—three times a month. The banks were located at Buda, Manor and Pflugersville.

Q. A great many country banks charge more than 10%?

A. I don't think so,—not legally, that is all they can legally charge.

Q. But in an indirect way, they charge 10% for money for eight months, and things of that kind, don't they?

A. No. sir.

Q. You have never seen that done?

A. No, sir; excepting short loans where they make the minimum charge of 50¢ on any loans.

Q. But they do make crop loans, say in March and payable in Oc-

tober, and charge 10%?

A. All loans that they make of that kind amount to 10% per annum.

Mr. Hoopes, you said that you didn't believe that the people would want to subscribe for the stock of this Six Million Dollars corporation on account of the risk. Now, of course, the opportunity of a corporation to earn money determines largely, in fact almost controls the question of the investment in it, does it not?

A. I didn't catch the question.

Q. The question of the ability of a corporation or concern of any kind to earn money, you say controls largely the question of investment that people will make, that is, if it stands to earn money, has an opportunity to earn good money and makes good returns, that will make it attractive, would it not?

A. Well, they would want to take that wholly in connection with,—The safety of the investment has got something to do with it.

Q. Well, Mr. Hoopes, suppose, just passing from this interroga-

tory,—Suppose that we take a company,—take the company that owns this company and it gets whatever profit that it may get from the operation, and in addition to that it owns another company which manufactures all of the equipment that goes into it, and this company buys all its supplies and materials for its use in the plant at such fairly large commissions with no way of checking up the profits of the manufacturing branch,—you understand now.

1238 another company, manufacturing company, and aside from the rate they get, the manufacturers of this equipment, they put it into this plant at whatever price they see fit to fix, it has no control over it and it stands in the nature,—there is no free agency about buying stuff at other places—

Mr. D. A. Frank: That's all assumption, Mr. Howard.

(By Mr. Howard:)

Q. An arrangement of that kind would tend to make the stock much more attractive to a man who wanted to realize on his money, would it not?

Mr. D. A. Frank: I object to that most seriously, because it is a statement, and assumption that isn't true, and is not supported by

the evidence in this case.

The Master: The hearing is before a Master; if the assumption, the hypothesis on which the question is based is not supported by the evidence, the answer will not have any effect whatever. I will give you your bill, however.

Mr. D. A. Frank: I want to call your Honor's attention to the fact that this witness is a banker in the City of Houston, and now to confuse him with a lot of statements that are not in the record and attempt to have him base his opinion on something that is not in the evidence is an unnecessary waste of time.

The Master: Mr. Hoopes may answer the question.

(By Mr. Howard:)

Q. Would that have a tendency, Mr. Hoopes, in the mind of the ordinary investor to make the stock more attractive to him?

A. Not unless he was interested in both concerns, no.

Q. I say his stock is in the concern which owns both of these concerns, for instance, the American Telegraph & Telephone Company owns practically all the stock of the Southwestern Telegraph & Telephone Company, and it is further in the proof that it is practically the owner in the same way, of what is known as the Western Electric Company; that the Western Electric Company manufactures practically all of the equipment that goes into the plant here, and the physical conditions are such and the arrangements between the parties are such that the operating plant has to buy all of its equipment from the manufacturing branch. You understand now that the American Tel. & Tel. Company own both of these companies, the

one whose stock we are speaking about, and the manufacturing branch, wouldn't that effect the situation and have a tendency to make the stock more attractive to an investor?

A. Not if he didn't take it out of one pocket and put it in the

other.

Q. You didn't get the question. You have been considering this thing merely as an operating telephone plant?

A. Yes, sir.

Q. Now, the American Telephone & Telegraph Company owns this plant, now, and it also owns the manufacturing plant which manufactures the product, and has the right to put them in here, and to put them in here at its own price—

A. (Interrupting.) They are, however, separate corporations as

far as these stockholders are concerned?

Q. We are assuming for all intents and purposes that the same corporation,—that the American Tel. & Tel. Company owns not only the operating plant, but also owns the manufacturing plant?

A. That is, if you are a stockholder in the American Tel. & Tel.

Company he gets the profits out of either one?

Q. Yes.

A. I think if they were making money out of the manufacturing business that it certainly would make it more attractive, yes.

1241 If it would simply be guaranteed to them as to what the return would be, certainly, yes.

Mr. D. A. Frank: As a matter of course, if it's in the record and

the record shows that---

Mr. Howard (interrupting): We disagree very much about the record. Do you deny that the American Telegraph & Telephone Company owns ninety-nine and a fraction per cent of the stock of the Southwestern Tel, & Tel. Company?

Mr. D. A. Frank: You said it owned all of it. Mr. Howard: I said "practically" all of it.

The Master: Let's go ahead.

(By Mr. Howard:)

Q. Now, Mr. Hoopes, it has been a fact, has it not, that up until a comparatively short time ago there has been a decrease from the interest levels that existed some eight or ten years ago?

A. Well, I think, Mr. Howard, that the rates perhaps have gone down some, but the security, the margin in there, has very materially

increased.

Q. It has been difficult for men who have money to lend, the average little investor, of from one to Five Thousand Dollars,—loans of that amount,—small loans to obtain as much as 8% during

the two years prior from October, 1919?

A. That's not been my experience.

Q. You haven't been right in this vicinity during that time?
A. No. The last time I was in this section I was in Galveston.

Q. Mr. Hoopes, I believe you were connected with the Federal Reserve Bank at one time?

A. Yes, four and a half years.

Q. Isn't it a fact that here a short time back the Federal Reserve Bank passed such regulations, which made it a little more difficult to get money, and had the effect of tightening—

A. (Interrupting.) Well, the regulations didn't; they raised the

discount rate.

Q. Which makes it harder to get money?

A. Not harder, more expensive.

Q. Well it tends to deter a man from getting money if he have to pay a bigger interest rate,—if it makes it more expensive?

A. I don't think it would effect the investment in a mortgage or

stock investment.

Q. Well, that was passed largely with a view of curbing speculation?

A. Yes, sir; stock speculation.

1243 Q. Mr. Hoopes, if that is the result of that, won't the logical sequence of it, the result of it eventually being to effect the prices of commodities?

A. Well, that's the theory of the great financial experts, yes, sir. Q. And, of course, have a tendency to make a downward trend

a commodities?

A. That's what they hope for, yes, sir.

Mr. Howard: I believe that's all.

Redirect examination.

Questions by Mr. Frank:

Q. What is the capital stock of your bank?

A. Capital Stock One Million Dollars and a surplus of a Million. Q. I believe you stated that you never charged over 10% even as

a country banker?

A. Except as to the minimum of a 50¢ charge on small loans.

Q. If you charged more than 10%, you might not only not have collected your interest, or might have had to pay double the amount under the laws of Texas?

A. Yes, sir.

Q. Mr. Hoopes, he stated a hypothetical case to you which we deny, but irrespective of what arrangement might be made between two or more companies, operating here, if the company owns six and a half or seven million dollars' worth of property in the City of Houston, and it were sold to a local concer-, and the local concern attempted to sell stock on the market in the City of Houston, they would have to have a fair return in order to sell it?

A. Well, they would have to have a pretty high return, I think, Mr. Frank, and that it would take a pretty good lever to pry out

that much money on that size investment.

Q. Suppose they were spending more money than they were making, could they sell the stock at par?

A. I don't think they could, no sir.

Mr. D. A. Frank: That's all.

Mr. Howard: That's all.

B. P. TIMPSON, a witness for the plaintiff, after being duly 1245 sworn, testified, as follows:

Direct examination.

Questions by Mr. D. A. Frank:

Q. State your name to the Court, Please, sir.

A. B. P. Timpson.

Q. Mr. Timpson, where do you live?

A. Houston.

Q. How long have you lived in Houston?

A. Practically all of my life.

Q. About how many years have you lived here?

A. Fifty years.

Q. About fifty years?

A. Yes, sir.

Q. What business are you in?

A. I am connected with the Houston Land & Trust Company. Q. You are connected with the Houston Land & Trust Company? A. Yes, sir.

Q. How long have you been in your present business?

A. I have been connected with the company about thirty vears.

1246 Q. About thirty years?

A. Yes, sir.

Q. What is the character of the business done by that company?

A. Loans and mortgages.

-. The loan and mortgage business?

-. Yes, sir.

-. Are you familiar with the interest rates charged in Houston, , and the return usually made upon capital invested here in business enterprises?

A. Yes, sir.

Q. What is the usual rate of interest charged in the City of Houston on commercial loans at the present time?

A. At the present time, I think, from six to seven per cent.

Q. And what is the usual rate of interest charged on real estate loans, on prime security?

A. Well, on business property from six to seven per cent, and on

residence property, from seven to eight per cent.

Q. And upon what per cent of appraised value in loans,—in making a loan on what per cent of the appraised value is the loan made? A. On residence property, about 50%, and on business property

from 60% to two-thirds.

Q. That is, from 60% to 66%?? 1247 A. Yes, sir; it would have to be very choice inside property to carry that though.

Q. Where capital is invested in a business venture and subject to the ordinary hazards of business, what return is usually expected and realized in the City of Houston?

A. On business investments?

Q. Yes.

A. Why, I don't really know. I am connected with one or two concerns earning around twenty per cent when business conditions

were normal,-fifteen to twenty per cent, I should say.

Q. If a telephone company were organized in the City of Houston to purchase or build a telephone plant such as that now located in the City of Houston, and belonging to the Southwestern Telegraph & Telephone Company, requiring an investment of six or seven Million Dollars what return, in your opinion, would be necessary to be paid upon the stock in order to sell the stock in the City of Houston?

A. Well, it would have to be on the same basis of return as many

other investments.

Q. What per cent of return do you think would have to be made?
A. Well, I suppose, around what good secured loans average from six to eight per cent, in other words, in order

for them to purchase this stock there would have to be some assurance that the surplus earning would be a guarantee against a lean year in any way, you would have to say a net earning of somewhere between six and eight per cent, that is, the dividend returns. Of course, any well managed concern ought to earn more than that, so as to lay aside something for reserve or reserves.

Q. Which is more desirable, Mr. Timpson, a real estate loan of five hundred thousand dollars or the investment of five hundred thousand

dollars in a stock that would pay the same amount?

A. Well, I think the element of risk considered would make the

mortgage be the most desirable.

Q. If a widow came to you with some money from life insurance, would you advise her to put it in a real estate loan, or in telephone stock that was producing the same rate of return?

A. If my advice was asked, I would suggest the loan,-the mort-

gage.

Q. As a matter of fact to sell the stock wouldn't you have to differentiate in the stock as compared with a real estate mortgage loan?

A. I think so, the risk would be greater.

1249 Q. Do you happen to know, I don't ask you to tell me unless you care to, but do you happen to know what the average dry goods company in Houston makes a year?

A. No, sir.

Q. Or what the average bank makes?

A. No, I could not say.

Q. You don't happen to know?

A. No, sir.

Q. What is the rate of interest usually obtained in the City of Houston at the present time on mortgages, on residence property?

A. Right now seven and eight per cent.

Q. How much stock could be sold in a company having a capitali-

zation of from Six and a Half to Seven Million Dollars to build a telephone plant in the City of Houston?

A. How much stock could be sold locally?

Q. Yes.

A. I don't think you could sell very much.

Q. Well, if you put on a specially high return, you could sell some, couldn't you?

A. Very little. I don't believe that the people of Houston or in

the South look upon that business with favor.

Q. Well, if you had a local concern here that was in the telephone business and you couldn't get money anywhere else, it would be possible to put the rate of return high enough to get people to put money into the telephone business.

A. Our local capitalists?

Q. Yes.

A. I don't think so.

Q. Would a ten per cent return attract local capital into the tele-

phone business in the City of Houston?

A. Well, it would be attractive, but wouldn't be desirable because of the government requirements and restrictions; there would be that uncertainty that you would not know from one administration to another what they were going to do.

Q. Would a twelve or fifteen per cent return attract local capital

into the telephone business in the City of Houston?

A. I don't believe I could answer that question except by qualifying my answer in this way: It would not be attractive to anyone who had opportunities to invest elsewhere, unless they had some assurance that the return would be more or less permanent, or in other words, they would get as much out of the investment as they would on a more favorable investment like a mortgage.

Q. So when you made the statement a few minutes ago about six per cent you had in mind a loan to a telephone company

1251 rather than a stock proposition?

A. No, I said a man who put an investment in that sort of business would naturally want the same return as on a mortgage, and not ten or fifteen per cent that he would get one year and nothing the next.

Q. Would or would not an investor in the City of Houston purchase six or eight per cent stock in a telephone business in the City

of Houston?

A. On account of the character of the investment I don't believe he would.

Q. And you have your doubts as to whether or not he would in-

vest in it at even ten per cent?

A. I think so. He would not; just because of the risk he wouldn't do it as the company's earnings ordinarily depend largely on the local administration and the public—the investing public know that and undoubtedly doubt their ability to pay their obligations, and therefore would not want the security at all.

Q. A telephone Company starting out in the City of Houston to finance a plant of this magnitude would have to obtain money in

competition with other businesses in the City of Houston, requiring money, would they not?

A. Yes, sir, certainly.

Q. And if the money was secured in some way it would take rather a large return in order to get the money?

A. Yes, sir.

Q. And you think that with even a large return it would be difficult to attract a sufficient amount of capital in Houston.

A. I think so, because of the uncertainty of it.

Q. Well do you consider that an investment in a public utility, subject to regulation, would be a greater or less risk than an ordinary business venture?

A. What do you mean by regulation?

Q. Regulation by the local city administration.

A. Well, I think under all circumstances the risk would be

greater.

Q. In your judgment as a financial expert, which would be the more desirable investment, an investment in stock producing eight or ten per cent, in a telephone company in the City of Houston or an investment in a real estate loan producing seven per cent, a prime real estate loan, secured on property in the City of Houston?

A. Well, speaking for myself, I would rather have the mortgage

at seven per cent.

Mr. D. A. Frank: That's all.

Cross-examination.

Questions by Mr. Howard:

1253 Q. Mr. Timpson, all people get more or less used to the same particular form of security, do they not, that is the ones that are more familiar with, and they are apt to be partial to a business or securities that they are quite familiar with, are they not?

A. Well, anything that's safe and suitable, Mr. Howard, I think. Q. You have never given anything more than a passing opinion, have you, Mr. Timpson, to the telephone industry?

A. No, but we handled all sorts of securities, bonds, and stocks,

mortgages and commercial loans.

Q. What is there about a telephone company investment that

you consider particularly hazardous?

A. Well, I think, Mr. Howard, my criticism will apply not only to this company but to all other utilities,—that you are only permitted to earn what the local administration decreed.

Q. Now, on the other hand, Mr. Timpson, they are assured of all the earnings, and of all the patronage of the community, are they not? Competition for them is practically, eliminated.

A. Yes, sir.

Q. And that instead of being hazardous, you have the competition eliminated?

A. That's not guaranteed; you have had plenty of competition in the past in all lines of business.

Q. The patronage is guaranteed? 1254

Mr. D. A. Frank: But not the earnings?

A. We have had competition, both with the telephone and street cars and all, but the street cars,-we had a street car that ran a little

line out here, and had two telephone companies.

Q. Have you noticed that at hardly any place is there any great amount of competition,-have you noticed that the tendency has been to the elimination of competition in public utility enterprises, for instance, I think, they all had, perhaps some competition in this city in years past.

A. Yes, sir.

Q. And all the competition has now been eliminated?

A. I think so.

Q. Then any public utility operating in the City of Houston today is assured of all the business of that industry, isn't it?

A. They have got the business assured,—the business, but not the They get the business but don't get a proper return on it.

Q. But then it is worth something,—it is a compensating element to have competition removed?

A. No, not unless you permit them to earn the money.

Q. But the ordinary industrial concern,-have any of them these protections in the way of eliminating competition?

A. No, but they have that freedom of movement and with the proper amount of trade they can build up and that always pays

expenses,-they put themselves in position to make money.

Q. They can if they don't go into bankruptcy, but among the people who are going on and doing business speculation has been running rife for some years all over the country and is today,that's one of the conditions.

A. There is a great deal of speculation all over the country, yes,

sir.

Q. Up until the last few years mercantile and industrial failures were very common things, were they not?

A. I won't say many, but of course, I expect the percentage has

been unusually large.

Q. Have you ever heard any statement as to the per cent of people who embarked in business and made a success of it?

A. No, I haven't.

Q. You never made any study of the statistics along that line? A. No, sir. That's always well known that if there is

a failure that it is due either to mismanagement or undercapitalization,-there is always some good strong reason for it. Any carefully managed business will survive and a failure is always due-

Q. (Interrupting.) If conditions are proper,-if conditions are favorable they will survive, but that is always open to mistakes of judgment and disappointment in matters that they had planned. They are all subject to those conditions, are they not?

A. Well, if the foundation of the business isn't properly laid, you are going to get into trouble. If you start a factory and put all of your capital into the plant and then have no operating capital, then you will be embarrassed right away to start with.

Q. Did you notice a downward tendency in interest rates Mr.

Timpson, from about 1917,-1915 up until a short time ago?

A. Well, interest rates in Houston,—I think for a period of about two years up to about six months ago, there has been an abundant supply of money here due to the fact of the suspension of development in business of all kinds, but conditions have changed very much in the last six or seven months.

Q. And now, you say, as I understand you, that secured 1257 business loans run,—well secured, first-class real estate loans

of from six to seven per cent, commercial loans from six to seven per cent and residence real estate loans from seven to eight per cent?

A. At the present time, yes, sir.

Mr. Howard: That is all.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. The advantage of having competition eliminated is not very much unless you are allowed to charge reasonable rates, isn't that true?

A. Why, yes.

Q. And if you are doing business at a loss, the more business you get the more you will lose?

A. I think so.

Q. When do you look for conditions to get back to normal?

A. Well, I don't know when that will be, but just as soon as we get our house in order and get straightened out. I think everything will get back, not absolutely to pre-war conditions, but very near; in other words—

Q. (Interrupting.) Have you made any investigation of the trend of prices of labor and materials in these last twenty

years?

A. No, I have not paid any close attention to it, but the change was very marked in the last four years, for instance, I am connected with an enterprise which employs common labor and before the war we were paying \$1.35 and \$1.50 a day for ten-hours work, and now we are paying \$3.50 a day for the same labor for nine hours; that increase has been steady since 1915.

Q. In the next two or three years you don't expect to get anybody to work for you for \$1.50 a day, who is now working for \$3.50 a day?

A. I do not know how soon that is going to come. Q. What is necessary before this will come?

A. Well, people will have to come back to earth and work and produce.

Q. The inflation in the last two years has caused the prices of everything to go up, hasn't it?

A. Yes, sir.

Q. And interest has been one of the last things to go up?

A. Interest is the only cheap thing we have had here for quite a while.

Q. And even that is going up now?

A. Yes.

Q. Do you expect any time soon that the price of labor and commodities,—do you expect any decrease in the price of labor and commodities?

1259 A. My answer to that would only be a guess. I hope—we can't continue this way and have got to get back to work to

produce things, or prices are bound to be raised.

Q. Do you think that the price of labor and material will ever be back to the place it was before 1914?

A. That's my opinion, but it is only a guess.

Q. For instance, the price of common labor now is about \$3.00 or \$4.00 a day as compared with \$1.50 a day?

A. Yes, sir; labor is about 35¢ or 40¢ an hour today as compared

with 171/2¢ to 20¢ an hour before.

Q. And you expect common labor to get back to \$1.50 a day, do you?

A. Yes, sir.

Q. Do you think it will be necessary to have a panic before that time?

A. No, I don't think so. The Federal Government is trying to help out that situation right now; they have put the brakes on and are trying to stop speculation which is one of the causes.

Q. Unions have nothing to do with the price of labor?

A. Unions?

Q. Yes.

A. Well, so long as they can, but I think they are getting near the end of their rope, right now.

1260 Q. And you are pretty firmly of the opinion that in order telephone stock to sell on this market it would have to produce not less than 10%?

A. Well, Mr. Frank, I think so little of it would sell,—I think I answered that once. I wouldn't want that at all,—I wouldn't want any street car company or any public utility stock.

Q. Even a public utility stock listed on the New York stock

market?

A. Well, if you take the New York Interurban, I mean the Interboro, I wouldn't buy it by the bushel.

Q. Has that gone down in price?

A. Yes.

Q. Do you know what caused it to go down?

A. No, I don't know.

Q. Railroad stocks and all other stocks listed on the-

A. (Interrupting.) It is a local institution and is not permitted to earn the money. The price of labor has increased, and price of material has increased, and that, of course, has increased their expenses, and they are not permitted to earn the money, I suppose, that's one of the strongest reasons.

Q. Even standard stocks on the New York Stock Market have sold

on a basis of 8%.

A. Yes, you can buy Great Northern today, preferred stock, around seventy-five or eighty on the basis of 7% dividends, and you can buy Southern Pacific around par, on the basis of 6%.

Q. And that's preferred stock?

A. No Great Northern is preferred stock; the preferred stock is 7% stock.

The Master: What is the book value of Southern Pacific stock?

A. I don't know, Judge. I have a statement down at the office. I have a little stock in it myself and it is considered very valuable stock and sold up to yesterday at about par, one hundred, and a fraction, and up to a few months ago it sold up to 112. They have a surplus.

(By Mr. D. A. Frank:)

Q. And even with a surplus,—they have a surplus and even then their stock is selling only at par?

A. Well it has sold in the last three months, I think, this year at

112, but after that decision-

Q. (Interrupting.) You don't know what the book value of the stock is on a share basis?

A. No, sir; I have it at my office.

Q. And as far as you are personally concerned, I believe you said you would rather have a real estate mortgage loan than any 1262 stock?

.A. Not any stock.

Q. Any utility stock?

A. Yes, sir.

Mr. D. A. Frank: I believe that's all.

Recross-examination.

Questions by Mr. Howard:

Q. You don't like utility stocks very much?

A. Not lately, not with what they are going through.

Q. Mr. Timpson, among the financial men, isn't this tendency, upward tendency of interest rates, hasn't that been looked upon as the probable beginning of downward prices, making money more difficult to get and start—

A. (Interrupting.) Well, it is due, Mr. Howard, to a good many things. Of course, there is more developing going on, and that took local capital, a great deal of money, perhaps more money has been contracted to be spent here in the last six months than in the previous two and a half years, and that has created a demand for money.

Q. Mr. Frank spoke to you about labor unions, and the outlook in

the labor world. It is a fact, is it not, that since the railroads have been returned to the owners, why, we hear less talk of strikes?

A. I think the labor unions realize now that they are in 1263 the hands of people who will not stand their demands any longer.

Q. And isn't it rather regarded as a start, a tendency towards normal, that the railroads have been returned to the owners?

A. No, I think that the price of labor is going to depend on the law of supply and demand. Contractors can get a better supply of common labor here today than a year or so ago, and that's due to two things, one is the return of the negroes from the army and the other is the influx of Mexican labor.

Mr. Howard: That's all.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. Co-incident with the return of the railroad properties to their owners we have heard talks of increasing freight rates too, haven't

A. Well, that naturally follows after a big increase in wages, the cost of buying equipment and putting the road beds in shape.

Q. And in addition to that the law under which the railroads are returned to their owners provide for a number of things, such as the joining together of different railroad systems into one system, and a number of other things of that kind,

and also gives authority to the Interstate Commerce Commission to fix rates all over the country, and all of that is likely to tend to the increase of freight rates?

A. I think so if the roads can show that they are entitled to it. Q. If they show they are entitled to it, they are more likely to

obtain it than before the war?

A. Yes, sir.

Q. And that will have a tendency to increase commodity prices?

A. Well, that's usual, and that will increase the cost to the consumer that much more.

Mr. D. A. Frank: That's all.

Mr. Howard: That's all, Mr. Timpson.

C. A. GATES, who had been previously sworn, was re-called 1265 by the complainants and testified as follows:

Direct examination.

Questions by Mr. D. A. Frank:

Q. Mr. Gates, you have already been sworn and have testified in this case, have you not?

A. Yes, sir.

Q. Have you made any investigation, Mr. Gates, to see what money is worth in the City of Houston?

A. Yes, sir.

Q. Will you, in your own way, give us the benefit of your inves-

tigation along that line?

A. I have talked to various bankers throughout the city here, who are handling various financial properties of different kinds, and I have found that the interest rate on loans running from short time commercial loans from seven to eight per cent, and in some instances as high as ten. I have found that on business property the usual basis at the present time is around seven per cent on the better classes; on residence property, around seven, eight and nine per cent, depending on the location. I have tried to find some-

thing on what other business were earning, because any busi-

ness to get money has got to go in competition with other lines of business and it has got to pay what other people pay for money if it gets it. I have prepared a statement of the manufacturing industries in Houston showing their capital, value of their products, total expense, and the net, and I have figured the per cent of the net to the capital invested.

Mr. D. A. Frank: We offer this as Plaintiff's Exhibit #163.

(The statement was thereupon received in evidence, marked: "Plaintiff's Exhibit #163", Witness Gates, and is filed herewith.)

A. This information was taken from the Report of the Bureau of the Census, Census of Manufactures, 1914. It is the report of 1915, and these figures were taken from Vol. 1, pages 1492 and 1493,—of Vol. 1 of that report. Where there are more — three—where there are three or more firms engaged in the manufacturing of any particular thing, like carriages, wagons and repairs, that business is shown as a separate business, but where there are only one or two people engaged in an industry, the total is placed under

the heading of "All other industries"; the idea being on the
1267 part of the Census Bureau not to show any individual's business or any single corporation's business. This statement indicates that the net return on the capital in 1914, and on a capital of more than \$25,000,000 was 15.36 per cent. There are in the list

that is shown at the top of the first page of this exhibit——Q. (Interrupting.) This is \$25,000,000 of capital invested and

the net returns on that was 15.36 per cent?

A. Yes, sir. The total net is also shown which is \$3,907,171.00. Q. And this was for the year 1914, before we got into the war?

A. Before we got into the war. Following on that sheet the various industries are listed, sheet one, I will just call your attention to a few of them. Automobiles, bodies and tops, had a little over Twelve Thousand Dollars invested, made a return of 103.70 per cent; Bread and other bakery products, with an investment of One Million, One Hundred ninety-eight Thousand Dollars made a return of 19.39 per cent; Coffee, roasting and grinding, with an investment of Two Hundred twenty-two Thousand Dollars, made a

return of more than 64 per cent; Foundry and machine shop products, with more than a Million and a half invested made a return of 21.42 per cent.—

1268 Mr. Duls: By the way I notice Ice Cream. What did Ice Cream make?

A. 24.68 per cent. Under the head of Newspapers and periodicals, printing and publishing, there is shown an investment of One Million, Eight Hundred Thousand Dollars, which made a return of 15.82 per cent; Publishing without printing, a return of more than 157 per cent; Oil, Cotton seed and cakes, is one of the smaller items, small returns, with an investment of more than One Million Six Hundred Thousand Dollars, made a return or 10.32 per cent. The smallest return on the list is the lumber industry with more than Six Hundred Thousand Dollars invested, which made a return of more than 8 per cent.

Q. The lumber people have recently doubled the price on their

lumber, haven't they?

A. Yes, sir; lumber would be an entirely different story today. All other industries, being those industries in which there were one or two concerns interested only, show a total capitalization of more than Fourteen Millions, and a return of 12.59 per cent; on the sheet following appears a statement showing the number of establishments of each character, in each line of business, and the total capitalization of each character, in each line of business, and the total capitalization of each character.

number of persons engaged in that particular business, and the total number of wage earners, together with the total capital invested in that line of business. The total number of persons engaged in—includes the average number of wage earners, so that the difference between the two represents the office force

or the executive forces.

Q. What is the total,—total number of establishments?

A. Total number of establishments was 276; total number of persons engaged, 7,036; wage earners were 5,607; total capital employed or invested was \$25,442,620.00. Now, on the sheet following, the third sheet, appears a list of the industries embraced in the statement, or in the nature of other industries, and the number of industries of each kind is shown there. For instance, artificial limbs, there was only one manufacturer; artificial stone products, there were two, and so on. I have also investigated the earnings made by the National Banks for the year ending, June 30th, and on the fourth sheet of this exhibit—

Q. (Interrupting.) June 30th, of what year?

A. 1918, which was the last report available.—the last report of the Comptroller of the Currency, that was available,—the report of the year ending June 30th, 1919, not yet being published, or was not at the time I made up the figures, shown on this report. Figures shown on this statement were taken from pages 234 and 238

of Vol. 1, of that Report; Report of the Comptroller of the Currency of the United States. This statement shows—refers entirely to National Banks and it shows, first, the towns which

we are considering taking the five larger towns in Texas, and Texas as a whole. The number of banks is shown in each town, for ex-

ample, in Dallas, there were five banks, the capital stock was \$4,650,-000.00, the surplus, \$3,150,000.00; the total of the capital and surplus was \$7,800,000.00; total gross earnings and recoveries was \$3,374,000.00; the losses charged off were \$118,000.00; the total expenses, taxes, and so on were \$2,146,000.00; the total net additions to profits, and I have used that heading because it appears that way in the Comptroller's report, meaning the total net profits for the year was \$1,110,000.00, of which \$648,000.00 was paid in dividends. The net earnings to Capital and Surplus was 14.23 per cent; the dividends to capital were 13.94 per cent. The same items are given for each town. In Houston there were six National Banks, with a capital stock of \$5,500,000.00, a surplus of \$2,250,000.00, a total of capital and surplus of \$7,750,000.00; the gross earnings and recoveries were \$4,033,000.00; the losses charged off \$567,000.00; the total expenses, taxes, etc., were \$2,605,000.00; the dividends were \$489,000.00; net earnings to capital and surplus were 11.10

per cent, and the dividends were 8.89 per cent. It is inter-1271 esting to note that the dividends to capital in Ft. Worth were 17.39 per cent; in Galveston 9.00, and in San Antonio, 11.68 per

cent.

Q. What is the average of Texas?

A. Texas, as a whole, had 509 banks, with a total capital and surplus of \$58,918,000.00; their gross earnings and recoveries were \$21,709,000.00; losses charged off, \$1,829,000.00; total expenses, taxes, etc., were \$12,211,000,00; the total net additions to profits were \$7,669,000.00; dividends paid were \$5,358,000.00; net earnings to capital and surplus were 13.02 per cent, and the dividends to capital were 14.41 per cent.

The Master: Mr. Gates, did you happen to find out why the losses

charged off in Houston were so large during that year?

A. I did not, Judge. They were practically one-third of all losses in the State; I did not have time to chase through the report. It is a very voluminous report, and I presume I could have found the details if I had gone over it, but I didn't go over it.

(By Mr. D. A. Frank:)

Q. The total gross earnings and recoveries in Houston were higher than any other in - State, were they not? 1272

A. Yes, sir.

Q. The total losses were also very much higher so were the total expenses including taxes, they were also very much higher, that's true.

A. Yes, sir.

Q. In other words, comparing this with Dallas, the total gross earnings in Houston were nearly \$700,000.00 greater, but the losses charged off in the City of Houston were \$450,000.00 greater, and the taxes and other expenses in the City of Houston were \$450,000.00 higher than in Dallas?

A. Yes, sir, that brought the net profits in Houston down to \$250,-

000.00 less than in Dallas.

Q. That is, the net profits in Dallas were 1,110,000.00 and in Houston 860,000.00?

A. That's right.

Q. So that the average net earnings to Capital and Surplus for the entire State of Texas, in the National Banks, was 13.02 per cent for the year 1914?

A. 1918,-for the year ending June 30th, 1918. The fiscal year

of the Treasury Department ends on June 30th.

Q. If interest has been going up during the last year there would be a higher per cent say for the year ending, June 30th, 1919?

A. It would if expenses and taxes remain the same.

1273 Q. Is there anything else that you want to say about that,

Mr. Gates?
A. I think not.

Q. Have you made any further investigation to see what would be a fair return in the City of Houston?

A. Why, yes, I have.

Q. Just give us the benefit of that investigation.

A. I have investigated the loan of the Houston Gas Company just put on the market for sale.

Q. You say that was a loan?

A. It was a bond issue put out to refund a bond issue that came due on the first of March of this year.

Q. Are you referring to the same loan described in the circular presented by Mr. H. Blair-Smith, one of the witnesses in this case?

A. I think probably it is the same loan, as it is the only loan, I

understand, that the Gas Company is trying to float.

Mr. Duls: That's plaintiff's exhibit #140.

A. I have here a circular issued by Harris, Forbes & Company, in which they offer Nine Hundred Thousand Dollars, being the entire issue of first mortgage, 7% Gold Bonds of the Houston Gas

Company, due March 1, 1923, at a price of ninety-seven and three-eighths and interest, yielding eight per cent.

These bonds are callable on any interest-paying date. If they are called on or before March 1st, 1921, the Gas Company will pay 101 and interest, and thereafter, on or before March 1, 1922 at 100% and interest, and thereafter on or before September 1, 1922 at 1001/2 and interest. This circular in describing the bond issue states that these bonds are secured by the first mortgage of the Houston Gas Company, dated March 1, 1905, which, in the opinion of counsel covers all the property, rights and franchises of the Houston Gas & Fuel Company, and the outstanding bonds, reduced from the original issue of \$961, 0.00 to \$900,000.00—I see that a reduction was made by the Gas Company in taking up the \$61,000.00, leaving \$900,000.00 even. They have been extended from their original due dates for three years to March 1, 1923. the original mortgage secured the payment of only 5% interest per annum, the additional 2% to be paid for the three years of the extension has been deposited in cash under an arrangement whereby it will be paid to the bondholders on each interest date. Additional

bonds may not be issued under this mortgage. In other words, this is an issue of \$900,000.00 worth of bonds which is a first claim on the property of the Houston Gas Company.

Q. Is there anything to show what the Gas Comapny's property

is worth?

A. There is a statement here of the outstanding stocks and bonds of the company; that statement shows that there is One and one-half Million Dollars in common stock outstanding, and Five Hundred Fifty Thousand Dollars in preferred, which is a 7% cumulative. Of bonds, there is this issue of \$900,000.00, which is a first mortgage, and \$806,000.00 of refunding and improvement bonds at 5%, and the gross earnings of the company are shown to be \$794,743.98; the operating expenses, maintenance and taxes, \$604,197.33; the net earnings, \$190,546.65. That's for the year ending, January 31, 1920. The annual interest on this \$900,000.00 is \$63,000.00, so that after paying the interest there is a net balance left out of the net profits of \$127,546.65 so that the net earnings are more than three times the interest requirements on the first mortgage bonds, and yet they are offered the public at 97%, so that they will yield 8%. Now, knowing that bankers don't perform these services for nothing, I made some inquiries as to what the Gas Company made out of this bond issue.

Q. Give us the result of those inquiries, Mr. Gates?

1276 A. And I have here a letter from the Attorneys of the Gas Company, written to me at Houston, under date of March 9th, which reads as follows——

Q. (Interrupting.) March 9th of what year?

A. 1920. It is addressed to me at Houston. Their file number is "#G-390". "The facts, with reference to the refunding of the Houston Gas Company's bonds discussed in the attached circular,—" which is the same circular that was filed as an exhibit, (continuing reading from letter)—"are substantially as follows: "Some years ago the Houston Gas & Fuel Company, predecessor of the Houston Gas Company, issued bonds aggregating \$961,000.00 secured by first mortgage;"—

Mr. Howard (interrupting): \$961,000.00?

A. \$961,000.00 secured by first mortgage. (continuing reading from letter): "these bonds maturing March 1st, 1920. Anticipating this maturity the Houston Gas Company has for some time been actively engaged in an effort to get those bonds refunded. The only proposition which they could get which would in any event be accepted was made by Harris, Forbes & Company, who purchased Nine Hundred Thousand of the outstanding bonds, with

the understanding that the rate of interest was to be raised from five to seven per cent, and that they should pay no more than ninety-one for the bonds. The Gas Company was required to take care of the additional sixty-one thousand of

was required to take care of the additional sixty-one thousand of the bonds. The net result of the transaction is that the Gas Company receives ninety-one for seven per cent bonds which are extended for a period of only three years. The Company was unable to make a better arrangement though it used every possible effort to do so, and it was only with great difficulty that this arrangement was effected. Yours truly, Baker, Botts, Parker & Garwood." They are the attorneys for the Gas Company.

(By Mr. D. A. Frank:)

Q. Have you made any calculations Mr. Gates, to show what rate of interest the Gas Company is paying on the loan made?

A. Yes, sir.

Q. Will you give us the benefit of them?

A. The Gas Company in the first place is required to take up the Sixty One Thousand Dollars of bonds, leaving Nine Hundred Thousand Dollars outstanding. They are then required to deposit with Harris, Forbes & Company so that it is available for use in paying the interest, the difference between the interest as secured by

the original mortgage and 7%, which is 2% per annum for three years, on Nine Hundred Thousand Dollars,—or Fiftyfour Thousand Dollars. Now, that interest is due at the present time, and the Gas Company is entitled to a credit for the interest on the interest on the deposit that they have made in advance; they are entitled to what that money would earn by paying it before it is due. It is a simple calculation and just to sum it up, without any details, that is, without going into any calculations as to interest on the interest, in other words, computing it simply and taking simple interest, I arrive at this: When the Gas Company pays these bonds, they will have to pay the face, or Nine Hundred Thousand, if it is a solvent concern, if it doesn't pay it all of its property is mortgaged to make that good. They will also have to pay the three years' interest at 5%, which amounts to One Hundred Thirty Five Thousand Dollars; they have already paid Fifty-four Thousand Dollars interest, which is 2%, bringing the rate up to seven per cent, but that has been paid in advance. If the Fifty-four Thousand Dollars were put out at the same rate of interest that the public is invited to subscribe for these bonds, 8% for half the period, which would be the average time, it would earn Six Thousand Four Hundred

to sum the matter up, is going to pay One Million, Ninety-five Thousand, Four Hundred Eighty Dollars, and all they are getting out of it is Eight Hundred Nineteen Thousand Dollars. I haven't put in anything for the interest on the Eighty-one Thousand Dollar discount, which they pay in advance, and which they are entitled to charge interest on during the three year period; but dropping all consideration of interest the Eighty-one Thousand Dollars, they will have to pay One Million, Ninety-five Thousand Four Hundred Eighty Dollars for Eight Hundred Nineteen Thousand Dollars, which Harris, Forbes & Company paid, and the cost to them will be the difference between the two sums, which is Two Hundred Seventy-

Q. For a period of how much time?

six Thousand, Four Hundred Eighty Dollars.

A. A period of three years; that's for the use of Eight Hundred Nineteen Thousand Dollars for a period of three years which is 33.82 per cent, or 11.14 per cent per annum. That is what they are paying for that money and that on a loan which, if their capitalization is reasonable, and I have every reason to believe it is, the bond issue is less than twenty-five per cent, less than one-fourth of their total

capitalization, in other words, they probably have got three times the property value,—they have got four times the property of their bond issue, if they haven't any water, and I don't

think they have, I don't know-I don't know anything about their

physical property.

Q. And then the security—

A. (Interrupting.) And they will have to pay more than 7% if they call the loan. Now, there is a provision in the bond contract that the company can call the loan at any interest paying date, but if they do they must pay more than par; if they call it on September 1st, 1920, or March 1st, 1920, they agree to pay 101 and interest. I have made some figures just to show what rate that will cost the Gas Company, what rate of interest they would pay for the loan if they carried it,—called it at the various periods. If they called it on September 1, 1920, the cost of \$819,000.00 for the six months would be \$123,480.00 or at a rate of more than 30% per annum. If it were called at the next period, March 1st, 1921, the cost would be \$187,110.00, or more than 15% per annum. If it were called at March 1st, 1922,—I would like to correct that, it is more than 19%.

Q. You mean if they called them on March 1st, 1921?

A. 1921, the cost would be more than 19%. If it were called on September 1, 1921, it would pay more than 13%; if it were called on March 1, 1922, it would pay more than 13%, and if called on September 1, 1922, the last date, it is callable, under their contract, it would exceed 12%.

Q. Is that all you wish to say about that, Mr. Gates?

A. Yes

Q. Taking all of the investigation which you have made with reference to loans and mortgages, and bonds, and stocks, and industrial concerns, in the City of Houston what in your opinion is a fair rate of return for money invested in a telephone plant such as the Southwestern Company has in the City of Houston?

A. I think it ought to run at least ten per cent.

Q. You think ten per cent per annum would be the minimum?

A. I think that would be the minimum.

Q. Even on that basis do you figure the stock could be sold in the City of Houston?

A. I think you could sell very little of it in the City of Houston-

you would have to go outside.

Q. One of the elements that you take into account in fixing the rate as high as you do, would be the risk which an investor takes in putting money into telephone stock, is it?

A. Yes, sir.

1282 Mr. D. A. Frank: That's all.

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Gates, do you know anything about the value of the property of the Houston Gas Company?

A. Only in a general way.

Q. You just judge by its stock issue?

A. No, I haven't judged by its stock issue. I have talked with the Houston Gas Company officials, and have also considered the size of the plant.

Q. Would you be sure that they have got a million and a quarter

invested in this city?

A. I think they have probably got considerably more than that, Mr. Howard.

Q. You wouldn't be positive that they had more than that?

A. No, I couldn't be positive without I investigated it. I might say that I could be positive that they had more than that; my guess would be that they had more than twice as much invested.

Q. Do you know that of all the public utility concerns in the City of Houston that the Gas Company is considered the most inefficient?

A. No, I don't know that.

Q. Don't you know that it is a public and notorious fact that they have consistently admitted their inability to perform service in this city?

A. No, I don't know that.

Q. That is, anything like adequate service?

A. I don't know.

Q. Don't you know it to be a fact that the slightest little drain upon their capacity causes them to appeal to the public not to use their service?

A. I don't know that to be a fact. It wouldn't surprise me a bit if they were having difficulty to get money to extend the plant,this would indicate that they could not supply the people of Houston.

Q. Do you know that in the last year they were before the City Council with the same plea that you came before it with claiming that they were losing money every day they ran and that they were only granted an increase of nine per cent, and that they accepted it as satisfactory?

A. I don't know; that wouldn't surprise me if they were before the Council asking for increase just as we have been for the past

two years.

Q. And do you know that it is a matter of public record over in the City Hall that they got an increase of nine cents,-that where

the year before they had \$1.00 per thousand, and that they accepted an increase of nine per cent, instead of 50% or

100% as you are asking for?

A. We are not asking for 50%, nothing of the kind. We ask the City Council for an increase of approximately 26%. I presented the matter to the Council myself, Mr. Howard, and I think you were there and heard it.

Q. You presented a rate of \$7.50 on business phones as distinguished from \$5.00 and \$3.00 on residence service as distinguished

from \$2.00?

A. We put that under the measured rate and gave you an estimate of what we thought the increase would amount to. When we went in and asked for that rate, and when we went in and got the statement as to the amount we expected that rate to earn, we might have made a mistake as to how much it would have earned; it might have earned more and might have earned less.

Q. And I believe it is in the records that you never applied for any increase in rate until late in 1917, at any time in the history

of the company?

A. I don't know whether it is in the record or not; I won't say that it is not, but to the best of my recollection is that the first increase we asked for in recent years was on the 26th of December, 1917.

Q. Do you know why we never heard of any request for an in-

crease in rate prior to the year 1917?

1285 A. I don't remember now of the application here. I was not personally present. But we have pursued this application for more than two years, and have attempted to show that we were losing money every day that we were deprived of the increase, and I also know that prices and costs have gone up every month and that we have lost more money, and are losing more money every day than we did when we asked for the increase.

Q. Do you know that the Gas Company has consistently admitted that their plant is not designed to take care of the needs of a city of

this size?

A. I don't know that they admit it. I would consider that probably the City has outgrown the plant, and they are now seeking some

money to extend it.

Q. Don't you know that it is not it is not susceptible of being built upon, and that its mains are not capable of being built upon in such a way as to economical- administer and perform the service required in this City?

A. No, I don't know that any such state of affairs exists.

Q. Your idea is that the people of this community should permit the payment of the 11% per cent interest per year and that a rate be based on them, and they should be included in the cost of this service, is that your idea of what the people should permit, Mr. Gates?

A. My idea, Mr. Howard, is simply this, that the people are going to pay, and ought to be willing to pay what it costs to perform the service, and the cost of money is just as real a cost as the cost of the day laborer, and if it costs 11½% the people

will have to pay for it.

Q. Mr. Gates, why should the paople pay 11, 12 and 14% interest because the people who are holding themselves out here as able to perform a certain service have to pay it any more than if I were

to undertake to build a house for you for a certain price and didn't have any money and would have to go down to a pawn shop and get money at 20% and 25% per annum, that you should carry that expense as a legitimate expense in the construction of your house?

A. I would not expect you to go and borrow money to build a house for me unless I paid you for it, because if I didn't you would

go broke.

Q. You would consider that a man who undertakes to build a house, that in addition to what the material costs that goes into it is reasonably worth, and what labor is in it is reasonably worth, and a fair profit upon the undertaking, that there should be added to that items of exorbitant interest that I had to pay on account of my inability to finance the undertaking?

A. I should think that I would expect to pay all of the expense of building that house plus a profit to you. Now, if I didn't contract with a man who was financially able to do it, or

rather, who was financially unable to do it-

Q. (Interrupting.) And you think that-A. (Interrupting.) Let me finish my answer.

Q. And therefore you think you should be permitted to borrow

money at exorbitant rates and make the people pay for it?

A. Let me finish my answer, Mr. Howard. The cost of money, as I have said before, is just as real and just as much a cost of doing business as anything else. If I employ you as a lawyer and I asked and expected you to perform services for me for less than your office rent cost you, I would expect to pay part of your office rent together with your other accounts, that is, I would pay a part of all of your expenses. I would not expect you to perform services for me without paying you. Now, a business like a Gas Company, like a telephone company, or like a street car company, in the City of Houston, is too big for one individual to undertake; there is no individual who, if he had the money, would take the risk on it,-he is going out and is going to get some of his associates and some of his

friends to come into it, and when he gets those men together the question comes up as to what the return is going to be,-

what can our money earn if we invest in this telephone company, gas company or in this street car company; the question is going to arise right there, how continuous are the earnings to be, how safe is our return, and if you can assure your friends of the safety of the investment, and that they can make more money, or as much money as they can in some other line of business, why, probably, they will go in with you, but you are going to habe to assure these people that they will receive a return of just what other people will pay for it, considering the risk. The exhibit which I have put in here showing what National Banks earn indicates that you can invest your money in a national bank, that is, the money invested in national banks in the State of Texas paid practically 15% dividends for the year ending June 30, 1918.

Mr. Powell: Have you got the stock at par?

A. Yes. Now, if you take the money actually invested which is

the capital and surplus, that represents your book value, and you get a return of 13.02 per cent.

Mr. Powell: The point I want to make is every rural bank making that dividend. You can't buy stock at the book

value,-the market value is always above the book value? Mr. D. A. Frank: No, the book value; that is just exactly what determines the book value.

Q. You admit going concern value, Mr. Powell, do you?

Mr. Powell: You have to buy stock at the book value to make

that much money on it?

A. Well, all right. You are going up here in banking-in business circles, it is usually considered that a bank, -a national bank, is under the supervision of the Comptroller of the Currency of the Federal Government, and that is about as safe an investment as you can get, and there have been no failures during the last year, as I understand it, of national banks.

(By Mr. Howard:)

Q. There hasn't been any failures in any business—

A. (Interrupting.) Whenever we get an association of capital together, which is necessary to handle any business we are going to have to pay what that capital will earn in other lines of business.

Q. But you picked out an old antequated, delapidated, public utility and state that as an example of the interest you have to pay, and yet you come in here saying that the American Tel. &

Tel. Company, the owners of this property can get this money at 6%, and for that reason you should have an increased return so as to take care of the troubles of some poor and inefficient

A. I am not saying that at all; I haven't said that the American Tel. & Tel. Company owns this plant; the Southwestern Company owns it. Furthermore, I haven't said anything about the rate of return, which may be 6%. I think it is in evidence,-let me correct it,—the rate of interest we may pay is 6%, but we feel entitled to earn a return on the present value of this property which is something in keeping with what other properties earn here, and could earn, and to extend this property to keep up with the growth of this City,—to protect capital and to extend the property to keep up with the growth of the City. Now, I don't know what plant you had reference when you spoke of an old delapidated plant, but-

Q. (Interrupting.) I was speaking of the Gas Company here and that is a notorious fact?

A. I was going to say that if you referred to our property that our property is practically all new here.

Q. The testimony shows that the physical condition of your property is good; I was thinking about the gas company?

A. Notwithstanding the fact that the gas company property is old, the statements of the gas company indicates that earnings of more than three times enough money to pay the interest on the bond issue are made.

Q. The fact is, Mr. Gates, that within the last year they claim to be losing money just as you are claiming here and they got an increase of 9% and they have apparently gone away happy and blessing the City Council for their magnanimous support. Mr. Gates, why are you concerned with the rate of return, why would it make any difference whether you are allowed six, or eight, or three or ten per cent, when it appears that with all the traffic will bear, you make less than one?

A. Well, we are entitled to this return and we hope the traffic will bear enough to get us the return. We are concerned with it because

we have got some time to get a return on this property.

Q. It has been suggested right here that it is about all the traffic will stand, and that it will pay you less than one per cent. What's wrong with the utility, what's wrong with the enterprise, why should that condition exist?

A. It's not the enterprise, Mr. Howard, except possibly this, that we didn't raise the rate quick enough,—the public perhaps

1292 didn't realize the value of the telephone.

Q. But you are basing it right upon the same rate that the public here are already using. I believe that it is admitted here that it is a fact that the people are patronizing the telephone more in proportion than any other community in the state.

A. No, not more in proportion by any means; it patronizes it but the telephone service is furnished entirely too cheap, not this year

or last year, but for several years.

Q. Mr. Gates, you made up a little statement on the first page of this exhibit and you show some very handsome profits over here in this right hand column. How did you make this up, Mr. Gates,

did you have access to all of the records?

A. I simply copied it from the Report of the Census of Manufactures published by the Bureau of Census of the United States Government, and you can find that report in the Public Library here, in the report for 1915, Vol. 1, pages 1492-3, and you will find all figures shown on this report, and you will find the expenses in considerable more detail, but will not give, I don't think, as I remem-

ber it now, the per cent that the net is to the total,—to the capital, but the net figure is given there, and the only thing that statement I made up that isn't in that report is simply

that I figured the percentage that the net bears to the total.

Q. Passing right down that right hand column you wouldn't consider it un-professional if I denominated those concerns as profiteers?

A. That was before anybody knew anything about profiteers.

Q. Well, it was profiteering at that time, 103% is profiteering. You wouldn't put that forward as having any relation to what should be a proper telephone return?

A. Yes, sir, I think that is the best evidence of what the return

should be.

Q. You are not trying to break into that class and don't want to get 150%?

A. Oh, we don't expect or hope to get any 150%; the average of

these things is over 15%. Now that is merely put in here as an indication of what other people are making.

Q. You didn't set up Hundreds of Thousands of people who went

broke prior to 1914?

1294

A. My understanding is this takes in all manufacturing industries that existed in Houston in the year 1915.

Q. I wonder if there is any such report for the year 1919? A. Why, the census bureau is four years behind in their publication, three or four years, and probably about 1923 or 1924 you can get hold of this information.

Mr. Howard: That's all. Mr. Gates.

Redirect examination.

Questions by Mr. D. A. Frank:

Q. One reason that the telephone company didn't make application for a change in rate prior to the time that they did make the application was the fact that they had a franchise taken out in 1915 which provided that they would not raise their rates for a certain period of time?

Q. Yes, and they agreed in the franchise not to raise the rate

for a certain length of time, I think, two years.

Mr. Howard: Did they do that in Houston?

A. I don't remember the details of the Franchise.

Mr. Howard: Wasn't the franchise that they wouldn't raise the rate without putting on a hearing?

A. Yes, the franchise, I think, is in the records.

(By Mr. D. A. Frank:)

Q. The Gas Company may be an old delapidated company, 1295 but this statement shows that their gross earnings for the year ending January 31, 1920, was \$794,743.98, is that correct?

A. Yes, sir.

Q. Whether or not the telephone company breaks into the class of industries listed on page 1 of your statement, it has to compete with those industries when it tries to get money?

A. Yes, sir.
Q. Mr. Gates, a statement was made here a day or two ago that the telephone company would have to spend \$500,000 for construction and re-construction in the coming year?

A. I didn't make the statement; I think they will have to spend

more than that.

Q. So, the telephone company is getting in new money all the time?

A. It must have new money to go on,

Q. Mr. Howard told us that the Gas Company is in bad condition because it had been laid out for a very much smaller city than Houston?

A. Yes, sir.

Q. If the Gas Company didn't have fundamental plans laid out for it like a telephone company they might make a mistake of that kind, is that true?

A. Yes, sir, even with fundamental plans they might make

1296 a mistake.

Q. And even a telephone company might make a mistake if they didn't have some very good work along that line?

A. Yes, sir.

Mr. Duls: The fundamental plans are made out by the general staff of the American Company?

A. Yes, sir.

1297 Testimony in Support of Assignment of Error No. 6, Relating to Relations with Western Electric Company.

EDWARD V. Cox, a witness for the plaintiff, after being duly sworn, testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is Edward V. Cox, and I live in Plainview, New Jersey. I am employed by the American Telephone & Telegraph Company at 195 Broadway, New York City. I have been connected with the American Telephone & Telegraph Company since 1895, a period of twenty-five years, approximately.

When I first entered the business I went into the side of the work having to do with the installation and maintenance of plant, switchboards, subscribers' stations, and so on. I was engaged in that for some four years: I then went into the General Department and had

to do with the general problems involving that same line of 1298 work. That was not in the engineering department. Of course, the organization of the Company then was slightly different from what it is now. This General Department had to do with the planning for construction work, and so on. I had about two

years' experience in that.

Before I went into the telephone business I was graduated in the Mechanical Engineer course at Sheffield Scientific School at Yale University: that's the Scientific Department of the University. I received a degree from another institution of learning; I went from there to Columbia University in New York City, and have the degree

of Electrical Engineer from that institution.

With reference to my telephone experience, going back to where I left off, with the General Department, I became an inspector of telephone construction, maintenance and operating in the Southern States. I had nearly a year of that. From that I went into the Engineering Department and had charge of repair shops and had charge of the design and construction,—engineered the sub-ways—the first long toll sub-ways that were built by the American Tele-

phone & Telegraph Company. The underground conduits, these being the first toll sub-ways ever built; they were built from New York to New Haven, Boston to Providence, New York to

Supervising Engineer the building of these sub-ways. From there I took up the line of work now identified under the organization as Plant Department work, and was assistant to the General Superintendent of Plant of the Long Lines Department of the American Telephone & Telegraph Company. I was located in New York, and in connection with that work had to familiarize myself with accounting, because of the fact that in the accounting system, which we heard of yesterday, was developed and established throughout the Company at that time. My engineering experience directly fitted me for that accounting work, because, the new accounting methods aimed to give a true picture of the Company's accounts, whereas, before that they had been largely theoretical accounting presentations. The new scheme was to make the accounting a picture of the accounts of the Company useful to the men in all departments of the Company. That was about 1908,—'07 and '08. I had that exerience for about three years and was then assigned to the Accounting Department, becoming the Chief Accountant in the year 1911, at headquarters of the General Department in New York. Right at that time the Interstate Commerce Commission was considering the development of its standard,—its uniform system of accounts for telephone companies, so that I par-

ticipated in the conferences with the Interstate Commerce
1300 Commission's representatives in the matter. I was part of
the General Staff of the American Telephone & Telegraph

the General Staff of the American Telephone & Telegraph Company from and after the time I became identified with the Accounting Department. In participating in these conferences with the Interstate Commerce Commission, I did that on behalf of the Associated Companies, as well as the American Telephone & Telegraph Company. The Associated Companies occasionally had a representative, or representatives, at those conferences, but only when requested by me for some special purpose. That was work that I was doing under this 4½ per cent payment that the Associated Companies make to the American Company for that service. I was asked by the Commission to accompany their representatives on trips made to establish these different classifications, and visited a number of telephone companies not connected with the Bell Telephone Company. I did not at all force myself on the Commission; I was asked by them to do so, which I gladly did. Having received the Interstate Commerce Commission's uniform system of accounts, my duties then lay in having them applied throughout the telephone system,—of the Bell Telephone System, and that involved an expansion of their accounting. I was Chief Accountant at that time; also, in developing the methods by which these accounting results were reached I continued in that work until 1917, and in that year

I was appointed General Auditor for the American Telephone & Telegraph Company, the General Department having to do with the corporate side of the work rather than the operat-

ing side. I held that position for about a year and a half and then became Supply Contract Auditor, my present title, on July 1, last year. I now hold the position as Supply Contract Auditor of the American Telephone & Telegraph Company, and when I say "Supply Contracts" I am referring principally to the supply contracts with the Western Electric Company between the American Telephone & Telegraph Company and the American Bell Telephone Company, as licensee of the Western Electric Company to manufacture under patents which those two companies own and control; also in connection with the so-called General Supply Contracts which the Associated Companies have with the Western Electric Company. As a general proposition all the Associated Companies have entered into this arrangement. I have a form of that contract with me here.

Mr. Duls: We offer this in evidence as Plaintiff's Exhibit No. 141.

(The contract was thereupon received in evidence, marked Plaintiff's Exhibit No. 141, witness Cox, and is filed herewith.)

1302 The contract is modified by letters written between the Company and corrected from time to time. I have here copies of the supplementary letters written between the Southwestern Company and the Western Electric Company.

Mr. Duls: We offer that as Plaintiff's Exhibit No. 142.

(The letters were thereupon received in evidence, and marked Plaintiff's Exhibit No. 142, witness Cox, and are filed herewith.)

The Western Electric Company is engaged in a manufacturing and merchandising business, specializing on telephone and electrical

supplies of all kinds.

The Western Electric Company in relation to the Bell System has several distinct functions. First of all, it is the manufacturing agent under the patents of the American Tel. & Tel. Company for the instruments that are used, the transmitters, receivers and induction coils, and then it is further the manufacturing organ for the telephonic supplies that go with the transmitter and the receiver in order to make a telephone system, the switchboards and all the details of apparatus that are involved. Those are also manufactured under licenses from the American Bell Telephone Company,

1303 or the American Telephone & Telegraph Company and are sold to the associated companies. In addition to that, it is the manufacturing agent of other sorts of electrical supplies, which it controls for itself, and finally it is a purchasing agent for telephone supplies of all kinds manufactured by others than the Western Electric Company. Under the last function mentioned of the Western Electric Company it acts in the capacity of a jobber for the Bell System, but it is for the telephone Company and not for the manufacturer.

The functions and relations of the Western Electric Company to the Bell System, to the associated companies, of which this Southwestern Company is one, are primarily two functions, first, it acts

as a manufacturer for the associated companies, and second, it acts as the jobber or supply agent of the associated companies. the main are the two functions.

I only know in a very general way when the Western Electric Company was organized. I know that either the Western Electric Company or the predecessor organization was in existence in the earliest stages of the telephone industry and at that time it was in

the general business of manufacturing telephone supplies and the excellence of its product was such that it led the American 1304 Bell Telephone Company to designate it as the licensee to

manufacture under the patents held by the American Bell Telephone

With reference to the advantages to the associated companies growing out of that manufacturing relationship with the Western Electric Company, the fundamental thing lying behing this Western Electric arrangement is the fact that the Bell System stands for a universal service. Its apparatus is not to be used just locally, but the apparatus here in Houston is to be able to function properly with apparatus in San Francisco. The very best that can possibly be secured in the way of apparatus must be developed and must be Now, that is the reason why the Western Electric Company was first designated as licensee in making telephone appliances and why the relationship has been expanded since then, the absolute assurance that the plans and designs of the General Engineering Department of the American Telephone & Telegraph Company will be carried out in the manufacture of apparatus.

Q. Do you mean, Mr. Cox, that there has been all during this relationship an effort to standardize the apparatus which the Bell

System uses throughout the country?

A. Exactly that. There has been the effort, first of all, 1305 to develop the most efficient apparatus obtainable, and second to make that available to every company in the system by means of standardization and through that the ability to manufacture at the very lowest cost, to have the supplies ready when, where and as needed and to get the benefit of experience with those items of apparatus in all parts of the country, so that any defect that could be detected or any improvement that could be suggested would be brought up and made available to every single user of the telephone.

Q. Does the Western Electric Company keep in touch with the use of this apparatus in the different parts of the country so that it can gain by the experience which the telephone companies re-

ceive?

A. That contact is exceedingly close. They are constantly in touch with the general staff of the American Telephone & Telegraph Company, the engineering department in particular I am referring to now, and cooperate with them in every form of improvement that can be worked out. It is very illuminating to go into the rooms of the Western Electric Company, their factory, and to see the methods by which this excellence of apparatus is secured. Suppose I just take as an example the bell, the bell underneath that

Now, that has got to operate in winter, in summer, in dry box. climates, in wet climates, and all of those conditions may be present in any one locality at different times of the year. 1306

Now, they don't just simply manufacture a bell box that will work here under the conditions of this room or the conditions of the factory, but they will take it and they will test it under all kinds of conditions. I have seen them testing those bell boxes and all sorts of other apparatus, and there will be a sample instrument that is being tested under conditions of very great humidity. is a tank with water boiling in it,-not boiling,-kindly let me correct that, at a temperature a little above a hundred, to make it very humid atmosphere. There will be another case where it is being subjected to a freezing condition by freezing; the temperature is very low, way belowing freezing. There will be conditions of great dryness where all the moisture is taken from the air so as to let the parts contract, if they are subject to any shrinkage. in each case the items of apparatus that is installed there is being run through a break-down test, through an electrical device which records the number of times an apparatus is used and when a breakdown occurs it stops and there is the record on the dial to show you exactly how many times that is operated. Now, that is simply Every single item is done that way, subjected to a breakdown test.

Q. You are referring to the items used in the local exchange here

in Houston?

1307 A. All of those different apparatus have gone through that kind of a rigid test to demonstrate any weakness under any

conceivable conditions under which they may be placed.

Q. These experiments are carried on by the Western Electric Company and the general staff of the American Company also is

carrying on experiments, is that true?

A. The general staff is carrying on experiments more with regard to the improvements in the general plan and scope, leaving the detailed manufacturing requirements, the dies or the jigs or whatever is needed in turning out the detail apparatus to be developed by the Western Electric Company.

Q. Well, they are constantly exchanging ideas as to this ap-

paratus?

A. Absolutely, because either may develop an idea that is immediately useful to the other.

Q. Now, in this manufacturing, what can you say about the use of old apparatus by the associated companies?

A. There is a very important function that is involved there with the growth of the telephone industry. A switchboard may be outgrown before the apparatus is worn out. Now, one of two things must happen: You must either put in an additional section, we'll say, of that same switch-board, or you must remove that switch-

board and put in an entirely new one of adequate capacity for the present conditions. Under that latter condition, which is very frequent, you have to return to the store room a lot of used supplies. Just as soon as you take them out of their

original installation, they are subject to deterioration, in addition to what they have experienced through wear and tear in actual serv-You have also in addition on these second-hand items the ones that have been taken out because they were defective, some troubles occur and they have to replace them. The result is that over time there is developed a large stock by each of the telephone companies of these items that are potentially of great value but not in position to be used and the local company hasn't got any place to put them at the time. I recall very distinctly the situation developed in the old days. When I say "the old days," I mean before the Western Electric Company had devised the plan with the cooperation of our engineering department to care for the second-hand Now, this goes back to the time when I was in charge apparatus. of the repair shops for the American Telephone & Telegraph Co. We had their apparatus coming back and we would repair it as A great deal came back that we didn't need and that was stored and we couldn't bring our minds to destroy or junk these items which were obviously valuable telephone equipment and yet we couldn't have any place to put that and we couldn't sell it for love or money, other than junk.

1309 Q. If this Southwestern Telephone Company's Exchange here in Houston was operated independently by itself, it would have—if the switch-board outgrew that situation, it would

have to junk that portion?

A. It would have to junk it or it would have to store it just as we had to store the items that were turned into me for repairs.

Q. By virtue of this relationship with the Western Electric Company, it can obtain a use for that equipment which they otherwise

would be unable to obtain?

A. These items are returned to the Western Electric Company. There they are completely reestablished, so that they are to all intents and purposes as good as new. They are then turned back to the telephone companies at a price which represents—well, we'll say, only a small fraction of their initial cost,—the cost of the depreciated article plus the repairs.

Q. Now, these benefits grow out of the manufacturing relation of

the Western Electric Company to the associated companies?

A. They do, because it is through the control of the manufacturing design and the manufacturing process that it is possible to work out these items which run into very big values. This is a matter of millions that I am referring to now.

Q. Now, you testified that the Western Electric Company also acted as a jobber for the associated companies. Does it act as such for the Southwestern Telegraph & Telephone Co.?

A. It does.

Q. Has the Western Electric Company a store house or warehouse here in Houston?

A. Yes, it has.

Q. I wish you would tell us briefly what advantages or benefits accrue to the Southwestern Company by virtue of this relationship

under which the Western Electric Company acts as a jobber for the

Southwestern Company.

A. The first thing that happens in this jobbing arrangement is this: It permits a concentration of buying power, the requirements of all the associated companies being polled and under the arrangements of the general staff of the American Telephone Company, these required being alike, so that a pooling process is possible. You have built up an enormous purchasing power. The result is that instead of having to work through the jobbers as a local telephone company would very largely have to do, I mean a company just buying for itself, they are enabled to go directly to the source of that article, the manufacturer, and deal with him on the basis of his most preferred customer. Now, that doesn't mean just merely benefit in

price. That is very substantial. It means a benefit in the 1311 service as a whole. Now, I just happened to notice here in the files some sample forms. Now, I have taken the simplest

case I could of the Western Electric jobbing proposition.

Q. Are they used here in Houston?

A. These are forms that I pulled right out of the stock room there, and these are made on papers which have been established as stand-Now, just to take a minute to explain that process. papers, if the forms had not been ordered through the Western Electric Company, these would have been ordered of a local buyer, a local This particular paper is marked "Telco Favor Bond." That is a water mark of the American Telephone & Telegraph Company. If this were bought, as it would have to be under the conditions of the company, that would be, not the mill mark, mind you, but the jobber's mark. Now, that is an important distinction. jobber's mark would mean that he would have one mill make it one time and another mill make it another time. So that if for any particular purpose this form was designed with the conditions that I represented, the output of one mill, there is no assurance that it would remain the same form at a different period. It might be a different paper. I was personally involved in this matter of selecting this paper, which came under my supervision as Chief

1312 Accountant, because the clerical force has so much to do with papers that the use value of that make them the force to decide through experts as to what papers should be used. Now, they are not the same, these papers, the first one is "Telco Favor," the next one is "Hammermill Bond," the next one is "Telco Wagon;"

next one is "Hammermill Bond," the next one is "Telco Wagon;" the "Telco" is evidence of the Bell Company water mark; "Telco Junior Bond," "XX Bond." Now, all those papers represent a range of qualities. Now, what company would be able for itself to employ experts to determine what the qualities of this paper were and why it should be used, what the abilities were to produce a paper that will stand erasure, at the lowest possible price. There are different qualities in paper, different kinds of substances, rags, jute, wood pulp, and so on, linen. Now, all of those items contribute characteristics to the paper. Now, what telephone company ever could afford to go into any extensive investigation and decide what kind of paper it wanted?

Q. Now, do you mean, Mr. Cox, to refer to that as a sample of the

Western Electric Company's ability to purchase material?

A. If you will get to that point. It isn't there yet. Now, the selection of the paper. In other words, these papers and others were established by the general staff as standard. Now, bringing 1313 this right home to the particular problem now in front of us, the Western Electric Company's feature in this. The matter was referred to the Western Electric Company to make contracts for

these papers.

Q. In other words, the Western Electric Company acted as the

Purchasing Agent?

A. Acting as purchasing agent for the telephone companies. Now, to provide a source of supply where these particular papers could be obtained: The paper industry is peculiar. There is practically no direct marketing by a paper mill of its own product. There are a few very pronounced exceptions to that general rule. You can count them on your finger, but the paper business is through jobbers, and all the papers bought by the Bell System prior to this period were bought through jobbers. Now, just the second we had a mill in sight, knowing the quality of paper we wanted, we could go right to the mill, and we broke right straight through that jobber's ring and we cut out from 10 to 40 per cent of that first cost. Now, the forms on the cost of the paper is at least 50% of the cost. Now, that comes right straight home to the papers that are used here in Houston.

Q. Now, Mr. Cox, you say the Southwestern Telegraph & Tele-

phone Company uses those papers here in Houston?

A. They use them here in Houston.

Q. Now, did I understand you to testify that the South-1314 western Telegraph & Telephone Company was saved from 10 to 40 per cent on the cost of that paper?

A. That is actually the fact.

Q. That was by virtue of the Western Electric Company acting

as Purchasing Agent for the Southwestern Company?

A. That's a fact. In order to make this particular case complete, I would like to add one further point. How were these papers introduced into the Southwestern Telegraph & Telephone Company? That was again done by the General Staff because they assigned a paper expert to come out here and make a study of the forms of the Southwestern Telegraph & Telephone Company so that they would know the requirements for any form. Now, it is obvious that you should not have a temporary form on paper which is of such high quality that it will last indefinitely, and vice versa, if your record is to be permanent, it should be on paper that is permanent. That study was made by the General Staff of the American Company without expense to the Southwestern Bell Telephone Company, and through it there is an annual saving established of over \$5,000.00.

Q. On what basis, an annual basis?

A. An annual basis, yes. Now, I have taken, as I said, the simplest case that anybody can understand, to show the point. It

is not the size. It is the simplicity of the case that makes me

1315 Q. Now, do you mean that a centralized purchasing and distributing department, such as is operated by the Western Electric Company could be carried on cheaper than it could by the independent companies?

A. There is absolutely no question about that.

Q. I mean, that it could be carried on cheaper than the South-

western Company could carry it on by itself?

A. Obviously, because there are experts assigned to the different lines. They can function rapidly; in fact, make relatively very few mistakes. They can coordinate their work. They are in touch with sources of supply. Their work is more rapid and very much better and you have the assurance that you will get the supplies when, where and as you need them.

Q. Is it your knowledge and experience that the Southwestern Company can purchase cheaper by virtue of this relationship than

it can if it were purchasing in the market by itself?

A. I am absolutely convinced of it.

Q. Now, what other advantage accrues to the Southwestern Company by virtue of the jobbing relationship with the Western Electric Company? What do you say about taking care of emergency situations, such as the storm we had here in 1915, for example?

A. The Western Electric Company maintains branch storehouses in the strategic points of each company's territory. Those 1316 storehouses contain the various items of telephone equipment

in sufficient volume to meet all normal conditions of emergency, but back of that there exists the larger centralized warehouse at Hawthorne.

(By Mr. D. A. Frank:)

Q. Where is Hawthorne?

A. Hawthorne being the manufacturing plant of the Western Electric Company at Chicago, where there is a much larger volume available which can be shipped to any point in the country where needed. On part of the items not manufactured by the Western Electric Company, at Hawthorne, the Western Electric Company through its purchasing power is enabled not only to make the lower prices that I mentioned before, but enabled to get the service, and that service under the particular point we are now discussing consists in a guaranty that the manufacturer will hold himself ready to supply a certain volume of output on demand; in other words, he maintains a stock there for emergency purposes.

Q. Well now, just apply that to the Houston Exchange, if you

can, Mr. Cox, say that storm of 1915 that we had here?

A. I am not familiar with the exact conditions that took place then, but I can be certain from the functioning of the system under conditions which I have observed over and over again, that

the action would be somewhat like this: The supplies available at Houston were, of course, on the job, ready. The sup-

plies available at the other centers in this immediate vicinity, other storehouses of the Western Electric Company at San Antonio, Dallas, New Orleans probably, and the others, were all immediately available and all shipped probably, the same day, certainly within 48 hours, the supplies that were needed to restore the conditions here to normal.

Q. If there weren't sufficient supplies at the places you have

named, would supplies be shipped in from other points?

A. The supplies would be shipped in from the Central storehouse

at Hawthor-e or from the manufacturers.

Q. So that, by virtue of this relationship the Southwestern Telegraph & Telephone Company are able to take care of emergency situations?

A. Certainly. If it hadn't, it would have had to fall back on one of two things: Either Houston itself would have had to have had a very much larger supply of emergency materials, and nothing that could have been reasonably held in stock would have been adequate to these catastrophies that come from time to time, either it would have had to have had a large supply of surplus material constantly drawing interest and storage space or it would have in the emergency been subject to the conditions of rising costs be-

cause you cannot buy under those conditions as cheaply as you can under normal conditions and what it didn't have on hand, it would have had to b-y against the market tendencies.

Q. Now, you say it would have had to buy against the market tendencies: Do you mean that in emergencies of that kind the prices for the material which the Southwestern Company would need would be increased or enhanced, is that so?

A. I mean that no manufacturing concern dealing with the small unit would give them the service demanded in emergencies of that

kind without pay for it.

Q. Does the Western Electric Company make an extra charge for supplying materials in these emergency situations?

A. They do not.

Q. If then, it wasn't for the Western Electric Company with its warehouses in different parts of Texas and all over the country, the Southwestern Company would have to carry a great deal more of merchandise and telephone material than it now does?

A. In order to provide against the emergencies of all kinds, both

the little fellows and the big ones.

Q. Well now, then, it avoids a certain amount of large carrying charges by virtue of this jobbing—

A. (Interrupting.) That is right.

Q. (continued). done for it by the Western Electric Company. Would you say that is another advantage accruing to the Southwestern?

1319 A. It is, and let me add just this word to it, that in the case of any local construction, suppose this building or a pole line under the conditions of a company at Houston taking care of itself, it would have to buy the poles and buy the other line material well in advance in order to be sure that it could start the work when

the time came to prosecute the work. Now, that period of purchase is cut down very substantially under this other arrangement, because the supplies are available. They are under contract always and they are ready when the need is and the only thing that is necessary to be observed is that there is sufficient time to transport the material and accumulate it on the spot at the time it is needed, but not in advance of the time it is needed

Q. Now, I wish you would explain to us how the Western Electric Company knows the amount of material that is going to be required by the Southwestern Telegraph & Telephone Company, say here in

Houston?

A. Commencing in the fall of each year, each unit in the Bell System and by a "unit", I bring it right down to a situation such as Houston, is studied to see the probable increase in the company's plant during the succeeding year. The Commercial Department initiates that study, they know the demand on them for service and in order to provide this service, they know that—they tell the Traffic

Department that we anticipate such and such a growth in stations, such and such a growth in the tool business, and

the Traffic Department, with the benefit of that knowledge, knows the additional switch-board facilities, the additional circuits that it will need and it makes the demand on the Plant Department to figure out the items of plant require-, and the Plant Department does that, both in items and in the estimated cost of those items. Now, each project is set down there specifically and in order that the total of any company is obtained, these different units are brought together and summarized. Now, the results for any company are finally brought together for a general review by not only the general staff of the American Telephone Company in New York, but also by the Presidents of the various companies that meet there in conference in the Fall, to decide on this construction program. Now, having considered the summation of the whole industry, companies by companies, and reached the figures, then the final program is laid down in harmony with all the conditions and immediately that is determined, the Western Electric Company is advised as to the Now, all that is done before total quantity of supplies needed. the end of the year so that we'll say, in December the Western

Electric Company knows that during the succeeding year it will need to make,—well, we'll say 800,000 desk stands, it will need to purches so many hundreds of thousands of poles and cross-arms and all the other items and it immediately arranges for itself the manufacturing program to develop that and it makes the underlying contracts so that the manufacturing plant will get its raw material, and it makes the contracts with the other manufacturing concerns from whom it purchases. Now, it must be obvious merely from reciting that sequence of events that all of that tends to produce a less cost, because for the Western Electric Company itself as a manufacturer the output can come along in a reasonable, harmonious, logical volume. You haven't got the very disturbing conditions of emergency, everything rushed to get through a certain line of work, and then the pressure switch to something

else, but everything flows through the shops harmoniously, regu-

larly and efficiently. Now, exactly the same thing is true of the other manufacturers from whom the Western Electric Company buys in volume and it is by reason of the fact ther their own costs are made in this way by having a stated volume, that the Western Electric Company is enabled to get the better costs and the better service and no local company can possibly get the same results.

Q. So that this relationship tends to and does actually result in lower costs both from the manufacturing standpoint

and from the supply standpoint?

A. That's a fact.

Q. Under both functions then the relationship is advantageous to the Southwestern Company?

A. Decidedly so.

Q. Now, Mr. Cox, you say that you are at present the supply buyer?

A. The supply contract buyer.

Q. The supply contract buyer? What are your duties in that

particular position?

A. They are to observe the workings of these supply contracts in every particular and to be certain that the associated companies are receiving the full benefits of these contracts, that the prices are the prices that should be billed, that the service is the best that can be given.

Q. Are you protecting the associated companies from any influence in prices charged them for their material by the Western

Electric Company?

A. I am. One of the obligations in our general supply contract is that the prices charged for apparatus shall be uniform to all the Bell System companies. Correct the notes, please, uniform to all licensees of the American Bell Telephone Company. I really made

a study just on that particular point.

Q. Well, do you also look after the services that are rendered by the Western Electric in supplying the different materials that the Telephone Company uses? By that, I mean, do you see that the billing and routine is proper and that the delivery of material is efficient, do you attend to that?

A. I follow all of the phases of performance under the supply

contract and those are included.

Q. In other words, if a requisition put in by the Southwestern Company isn't filled as speedily as it should be, you inquire into the

cause of that?

A. I wouldn't bring it down to that detail, because a particular requisition could be delayed and never come to my attention, but I review the thing in its general aspects and suggest the proper

remedies where conditions require such action.

Q. Well now, have you made a study of the prices which the Western Electric Company charges the licensee companies and the prices which it charges the independent companies on telephone material, telephone apparatus? Or, have you an exhibit showing the result of that study?

A. Yes.

Mr. Duls: We offer that as Plaintiff's Exhibit No. 143.

(The document was thereupon received in evidence, marked "Plaintiff's Exhibit No. 143, Witness Cox," and is 1324 forwarded herewith.)

- Q. Now, go ahead and tell us briefly what this exhibit is intended to show.
 - A. May I look at that copy?

Q. Sure.

- A. The exhibit is intended primarily to show the conditions which existed in 1914 between the prices to the associated companies and those to the independent companies, and the conditions in the year 1919.
- Q. Well now, ket's see if I understand that, Mr. Cox. You are showing by this exhibit what the Western Electric Company charged the associated companies for material in 1914, and what it charged the independent companies for that same material in that same vear?

A. Right.

Q. And then you are showing what the Western Electric Company charged the associated companies for that material in 1919 and what it charged the independent companies for that same material in 1919?

A. That's it exactly.

Q. Now, go ahead and explain just how you made this study How did you select the material in the first place?

A. The engineers were asked by me to set up a rendition of the items which would cover all phases of the Telephone plant,

1325 would be truly representative. Those items without any further selection whatsoever were then priced for the year 1914, so as to show the prices to the associated companies and the lowest price to the independent companies. In every case the lowest price has been taken to the independent companies and I should parenthetically state that the price to the independent companies varies with the volume, the lowest price is the price that is used here.

Q. Let me understand that. Do you mean to say that the price to the associated companies does not vary by reason of the volume

purchased by the associated companies?

A. That is correct. The price for a unit of one is exactly the same as a unit of a million. There is no distinction.

- Q. Whereas, if the independent companies purchased in different quantities, the price would vary?
 - A. According to the ordinary rule of wholesale dealers. Q. The difference between retain and and and A. Exactly. It is the wholesale price that is used here. The difference between retail and wholesale sales?

Q. All right, go ahead.

A. The first thing that is brought out is that the-we'll take the lower half of this page in the year 1914, the cost to the associated companies of these items.

Q. Will you state on what page?

A. This would be, let's see, on Exhibit D; would have been

\$5,275,443.00. The lowest cost to the independent companies would have been \$6,362,535.00, which is an increase of 1326 \$1,087,091.00, to the independent companies, or 21% increase to the independent companies over the price to the associated companies. That was the condition in 1914.

Q. Does that mean that the cost of that apparatus to the independent companies was 21% more than the cost to the associated

companies in that year?

That is exactly what it means.

Q. Well now, for the year 1919, what was the per cent increase in cost to the independent companies over the cost to the associated companies?

A. It was 38% for that year.

Q. Now, do you show the details of that anywhere in that exhibit?

A. The details are given under Exhibit E for 1919.

Q. Exhibit E being one of the pages of Exhibit No. 143?

A. That is right.

Q. Now, I notice that you have on the right hand side of the first page, per cent increase, and under that you have 52 and 82. I wish you would explain that percentage.

A. During the period of the war there was a considerable increase in prices in commodities of all kinds and the schedule was to show, what has actually taken place in items of telephone supply. The

facts brought out are, as follows: that on telephone apparatus 1327 the price- to the associated company have been increased by the Western Electric Company 52%. The prices on the same items to independent companies have been increased 82%.

Q. Well, that, Mr. Cox, has been by reason of the increasing cost of manufacturing, the cost of the raw products, this increase in

price?

A. That is the reason for it.

Q. And you say that the increase in price to the associated companies has been 52% and to the independent companies 82%, that making an increase of 30% more to the independent companies than to the associated companies?

A. That is correct. Now, during that same period the price charged by outside manufacturers supplying telephone material in-

creased 121%.

Q. Well, but that is on material that the Western Electric Com-

pany sells other than telephonic apparatus?

A. Yes, it shows that the Western Electric Company hasn't increased its prices in anything like the proportion that the prices of other manufacturers have been increased.

Q. Now, does your exhibit show that the Western Electric Co. has been charging the associated companies more than it has been charging the independent companies for telephone material?

A. It shows exactly the contract and the percentages here 1328 are as stated, 21%, in favor of the associated companies, in 1914, and 38% in favor of the associated companies in 1919.

Q. Now, summarizing this exhibit, what does it show briefly? A. It shows that the Western Electric Company has at all points

favored the associated companies over its other customers. shows that these other organizations have in spite of this differential against them have been purchasing a substantial amount of supplies. This is on the second page, because in the year 1914, the companies other than the associated companies purchased \$2,300,000, worth, and in the year 1918, they purchased over \$3,300,000, worth. In other words, in spite of this price differential against them, they increased their purchases by about 43%, showing that the apparatus was well worth the price.

Q. Mr. Cox, the prices that you have in this exhibit were charged against the bills that were paid for these various materials on this

exhibit?

A. That is correct.

Q. So that if subsequently the engineer wishes to check any of these figures, it can be done?

A. Very glad to have it done.

Q. Have you made a study of the prices which were charged any particular independent telephone company and the prices 1329 that were charged that same company as an associate company?

A. Yes.

Q. What company was that?

A. The Company is known as the Utica Home Telephone Co. Q. Have you an exhibit which discloses the results of the study?

A. I have.

Mr. Duls: We offer that as Plaintiff's Exhibit No. 144.

(The document was thereupon received in evidence, marked "Plaintiff's Exhibit No. 144, Witness Cox," and is filed herewith.)

Q. What does this Exhibit No. 144 show?

A. This exhibit was obtained in this way: It is one of a series which will be made and happens to be simply the first one that has been completed. It represents a company which was established by the Stromberg-Carlson Telephone Manufacturing Company, which is one of the very important independent manufacturers, and continued as an independent company until the year 1911, when it was taken over by interests identified with the New York Telephone Company, a subsidiary of the American Telephone & Telegraph Co.

In connection with the taking over of that company, its 1330 records became the property of the New York Telephone Co.

and the opportunity was thus presented of reviewing the items actually purchased by a company when it was not only independent but hostile to the Bell interests, and these records were in excellent, very excellent condition. So I was enabled to have prepared a set of data showing the items purchased from 1905 to 1912, inclusive.

Q. When was it taken over by the Bell interests?

A. 1911, but the impetus continued through 1912 and the figures here will show that situation. These items of apparatus taken from their actual purchases as evidenced by paid bills and the paid checks paying the bills, cancelled checks paying the bills were presented

to our engineering department, which then determined the nearest equivalent Western Electric item, in other words, the item to fulfill the same purpose, and as the result of that, two columns were set up, one to show the actual cost of those various articles, the other the cost of the equivalent Western Electric Article at the price to one of the licensee companies.

Q. Now, when that company was an independent company, from

what manufacturing company did it make its purchases?

A. Very largely from the Stromberg-Carlson Co., with which it was identified.

Q. Is that a manufacturing concern in competition with the Western Electric Company?

1331 A. It is.

Q. Does it manufacture telephonic apparatus to a great extent?

A. It does.

Q. All right, go ahead.

A. Now, the results of the study show that for each of these eight years, the actual cost was higher than the cost for the equivalent Western Electric items and the average of the eight years was

18.69%.

Q. What do you mean, you mean that the-A. That the actual cost for this entire period of eight years of these

Q. (Interposing.) During which it was an independent com-

pany?

1332

A. During which it was an independent company, was 18.69% higher than the cost of the equivalent Western Electric item under the license contract. Now, I might just say in further explanation that the study revealed the fact that not every single item was less expensive under the Western Electric contract. I have here summary sheets and wherever a red figure appears, it means that the item was lower in cost from the independent manufacturer than for the equivalent item of the Western Electric manufacturer, but these items were not sufficient to affect the general result.

Q. Mr. Cox, in your studies is there any evidence of profiteering on the part of the Western Electric Company in its relations with

the associated companies?

 A. There has been no such evidence at any time.
 Q. Those studies that you have made there do not tend to show that the Western Electric Company is gouging the associated

companies, does it, in any way?

A. They indicate the reverse in my opinion. I would like to add that on this Utica Home Telephone study, I have so far merely referred to telephonic apparatus. Another large item of telephone supplies consists of lead-covered cable and the lead-covered cable was analyzed separately. The conditions there showed the cable bought under the actual price of the cable as purchased from independent companies was on the average 8.08% higher than cable of the same relative equivalency under the Western Electric Company contract.

Q. How much?

A. 8.08% higher, as in the case of the telephonic apparatus, there were under the cable study cases where the cable was purchased at a lower price from the independent company than the equivalent cable could have been purchased from the Western Electric Company, but I want to say here that while these red figures indicate that fact of lower prices, it can be explained in this way: A number of these cables were not absolutely equivalent; for example, the independent company cable would have a sheath, a lead sheath protecting the

conductors, having a thickness of 7/64ths of an inch instead of 8/64ths of an inch as required for Bell Company cables, obviously a little better cable for the Bell Company which

Bell Company and Western Electric applies.

Q. Now, is there anything else that you want to tell us about?

A. Well, in the same way, this lead sheath contained no tin, whereas tin is about 3% of it, was at that time the standard for the Western Electric cable, and fulfilled a very important function in adding to the life of the telephone cable.

Q. Are the books of the Western Electric Company open to all the associated companies so that they can check the prices which are

being charged by the Western Electric Company?

A. The books are open, but it is a very difficult thing for an associate company to check all of those prices, because the records are often at a point distant from the territory of the associate company. The result is that phases of that sort coming under the contract is a matter that falls to me to protect the associated companies.

Q. Have you made a study to find out whether or not the Western Electric Company is uniform in its charges to all the associated

companies?

A. Yes, I have made such a study. Q. Have you a copy of that study?

A. I have two copies here.

Mr. Duls: We offer this as Plaintiff's Exhibit No. 145, and ask that the stenographer mark it as such.

(The paper was thereupon received in evidence, marked, "Plaintiff's Exhibit No. 145, Witness Cox," and is filed herewith.)

Q. Now, Mr. Cox, this study was made with an idea of ascertaining whether or not the Western Electric Company was charging the Southwestern Company more than it was charging the New England

Companies, say?

A. That is correct, excepting that it was even broader. It was to include all associated companies to see if there was no partiality shown at any point in the prices charged for its apparatus. The study was initiated in this way: The Interstate Commerce Commission in its valuation section some years ago called for reports from all telephone companies as to the cost of the items purchased in each half year for the years 1910 to 1915, inclusive. This was to be the price of the maximum purchases in each half year and the number of its order was known as "Valuation Order 18." All telephone

companies had to file this report, and for the Bell System Companies, copies of the reports were struck off and on file at the New York Office. This data was used as the means of checking the uniformity in prices.

Q. In other words, you wanted to see whether the prices the Western Electric Company charged for cable here in Texas was the same they charged in Maine or Massachusetts?

A. I couldn't take the item of cable, because cable is not on uniform prices on the cost of manufacturing, but other items, cords, condensers, jacks, and so on, are all items of apparatus which must hold the uniform price. Now, the method was to set up a chart for each company, and the prices for these standard items shown on these reports were listed for all of the years, 1910 to 1915 inclusive, and then extended on through to 1918-1919. Then these standard prices were checked against the price actually made to the Interstate Commerce Commission. Now, I wish you would observe that the reason they are all taking those reports, they were made from a totally different standpoint, the items reported to the Interstate Commerce Commission for its purposes, and therefore a study made on those reports could in no way be biased. The prices, as I say, then were checked against the charts established in this way and wherever an item was found not to agree with the standard price, the facts were run down to the originating papers, namely, the paid bills in the files of the associated company which made the report. Now, the result of that study is given in this, and for 10 companies which are listed here, it showed that for every thousand items checked there was a deviation or error of 1.7 items, which I

think is a very extraordinary result. In my experience, I

1336 have known no set of bills to be as accurate as that.

Q. Well, that shows then that there are no inequalities in the Western Electric Company carrying out its contract with the associated companies?

A. I think that is demonstrated.

Q. Now, I wish you would turn to page 5 of Exhibit No. 142, Item 6, there?

A. Yes.

Q. Now, what does that Item 6 there mean?

A. This item is entitled "Remuneration," and it deals with certain special services which the Western Electric Company has agreed with the Southwestern Company to undertake at its warehouse. Now, this consists in handling certain classes of return material. It is items which have been returned from the field for one purpose or another, and the items here are classified and the nature of the work is designated and the remuneration to be applied for taking the work is specified.

Q. Now, have you made a study to ascertain what it would cost the Southwestern Company here in Houston to have these services from an independent source as compared to what it cost them under

his contract?

A. I haven't made just that study but I have approximated it by

making a general study at the New York office showing the results for all of the branch houses consolidated under these various

classifications of work, and also have checked that general result by a study analyzing in detail the cost at the Philadelphia branch house, which was taken as typical for the Western

Electric houses in general. Q. Well, please give us the results now of your comparison there, just take the items listed here under this Item 6, and tell us what

comparison you found?

A. For performing the services described in the foregoing, the Western Electric Company will charge the Telephone Company monthly as follows: Class A: For receiving, classifying and delivering to proper space in the warehouse, crediting and keeping records.

Q. Now, what is the charge?

A. The charge for that is 1% of the value of all Class A material

received at the warehouse and credited during the month.

Q. Now, if the Southwestern had had that service performed for it independently of this relationship by some other outside company, what would it have cost?

A. It is my opinion that it would cost approximately 8%, the

figure ascertained at the Philadelphia branch house.

Q. A saving then of 7% on that one item?

A. Correct: Class B: For receiving, classifying, crediting, keeping records, storing, selling and handling from the time it is received in the warehouse until it has been disposed of. 2% of the selling price of Class B material sold from the warehouse during the month.

1338 Q. That is what the Western Electric Company charges?

A. Correct.

Q. What is the result of your study as to what it would cost independently of this relationship?

A. In the neighborhood of 15%.

Q. A saving then of about 12½%. I would like to state there that this particular classification refers to junk, and obviously the price of junk, the salvage of junk is very low, and the cost of handling it on a percentage basis appears relatively high.

Q. In other words, there is a saving on that of 12½% due to this

relationship?

A. That is correct. Class C. For receiving, classifying, issuing credit, keeping records, storing for a period of not to exceed one year and re-issuing or disposing of, the remuneration is 7% of the value of all material credited during the month.

Q. That is the Western Electric Company's charge?

A. That is correct. The approximate cost of that service in my opinion is 9%.

Q. A saving there of 2% to the associated companies?

A. That is correct.

A. Class D, for receiving, storing for a period not exceeding one year and re-issuing or disposing of, the remuneration of the

Western Electric Company to be 2% of all material, credited as Class D during the month. In my judgment, the approximate cost of that is 4%.

Q. A saving of 2%?

A. A saving of 2%, that is correct.

Q. Now, what about the direct shipments? A. I have no figure in my mind for that.

Q. Well, is there any saving on the carrying charges?

A. I haven't any doubt that there is a saving there, but I couldn't quote any particular figure referring to it.

Q. Have you made any study on the figure on carrying charges?

A. No, I haven't made any estimate of that.
Q. Now, Mr. Cox, under this contract, or under this agreement with the Western Electric Company, is the Southwestern Telephone & Telegraph Company obligated to purchase through the Western Electric Company?

A. Not at all.

Q. In other words, if the Southwestern Company wanted to go out and buy a Kellogg switch-board or a Stromberg-Carlson switchboard, if such a thing as that were possible, it could do so?

A. It could do so direct, or if it preferred to do so, through the

Western Electric Company.

Q. Now, in order to summarize your testimony, I wish you would give us the advantages which accrue to the Southwestern' 1340 Company from this relationship with the Western Electric

Company as briefly as you can?

A. Fundamentally, the advantage lies in their getting a better apparatus than they could obtain, if they were not a party to this arrangement. By using standard apparatus all the advantages of large volume are achieved, the price and cost are kept low, and the volume justifies the highest degree of expert study in making the apparatus perfect. The cooperation is obtained throughout the entire telephone field so that the benefits that are developed in one territory, I mean, the improvements that are suggested in apparatus in one territory immediately become available to all of the other members of the group. The further advantage is that in the design of this apparatus, the necessity for extensions is always kept in mind so that there is not the requirement that when extensions are needed, the new apparatus will not function with the old, but the continuous chain, continuous progress of development can be followed by any company without loss.

Q. So that this arrangement leads to the obtaining of more ef-

ficient and better apparatus?

A. Exactly.

Q. What is a second advantage?

A. A second advantage consists in the using of an expert purchasing force in order to obtain your goods. The advantages there come again from the consolidation and greatly enhanced pur-1341 chasing power, enabling the lowest prices and the very best The ability to have the manufacturer give you preferred service and maintain stocks so that he is ready at any time to meet the requirements of the local company. The advantages also come about through experience in warehousing and delivering supplies.

Q. That is another advantage, is it?

A. That is another advantage.

Q. What about the lower cost of the material to the Southwestern

Telegraph & Telephone Company?

A. There is no question but what the costs are very much less by reason of the volumes and the uniformity of flow of items through the manufacturing concerns, both of the Western Electric Company and outside manufacturers.

Q. That is both as to telephonic apparatus and as to supplies?
A. That is it.

Q. Independent manufacturers' profits. Does another advantage exist in the better emergency protection afforded the Southwestern

Company?

A. Very substantial advantages offered there because the Southwestern Company need only carry supplies in stock to meet its current needs with a very slight margin over that point, we'll say two months'

supplies, on hand, whereas, back of it stands the branch houses of the Western Electric Company at strategic points, 1342

and back of that stands the central warehouse at Hawthorne and the manufacturers that are supplying hardware and other apparatus.

Q. Now, you have mentioned also the use of second-hand appa-

ratus, is that an advantage accruing from the relationship?

A. It is an advantage that runs into very large figures, enabling the company with surplus items recovered from its plant to dispose of them properly, and contrary-wise, enabling the companies which still have items of that nature in their plants to maintain them with supplies at a very low cost.

Q. Now, are there any other advantages which you can think of which accrue to the Southwestern Company by reason of this rela-

tionship with the Western Electric Company?

A. The advantages not yet mentioned of eliminating from a local company all of the purchasing machinery which would otherwise be necessary, the Purchasing Agent and his force, his buyers and investigators are very largely eliminated. The matters thus take merely the formal course of requisition.

Cross-examination.

Questions by Mr. Howard:

Q. Mr. Cox, what percentage do you estimate, of the Telephone Companies of the United States are owned by the Bell 1343 System, or by the American Telephone & Telegraph Company, what you call the associated companies?

Mr. D. A. Frank: Are you going by corporations, or States, or

amount of property, or what?

A. I haven't the correct figures in my mind, but I can give an off-hand estimate.

Q. It has been stated heretofore that probably they own four-fifths

of them.

Judge Powell: The Government's report in February of this year That is probably true. That would be reasonable. 4/5ths of all the wire.

Mr. Duls: I don't understand Mr. Cox's answer, or your question On what basis are you putting that on, on the basis of all to him.

the telephone properties in the United States?

A. I think that is true on the basis of investment. I don't think it is true on the basis of the number of stations, but as I suggested, I do not pretend to know the facts.

Q. But you would think it is about four-fifths?

A. On the basis of investments.

Q. I don't care about being particularly accurate. Then those companies that you call the associated companies, or Bell

Companies purchase all their telephone supplies from the Western Electric, that is, the telephonic equipment, the manufactured telephone equipment, aside from poles and supplies and things of that kind?

A. Not all of the companies that I have included in the answer to your first question, because you mentioned Bell System. Now, when you say Bell System, you include companies which are connected and they may not purchase through the Western Electric Company. It is the associated companies that-

Q. (Interrupting.) Well, these companies, associated companies, they are called, they own and control by far the greater part of the

telephone plants, do they not?

A. I think that is so.

Q. And still you wouldn't think that four-fifths would be an exaggerated statement, do you?

A. I question that. The associated companies themselves, I don't

think, have such a notion.

Q. And the Bell Companies and the associated companies give the preference to the Western Electric Company in their purchase of telephone equipment, do they not, the associated companies?

A. Only the preference by virtue of what they believe to be the

best; there is no obligation.

Q. Whatever the reason is, they buy it from them?

A. Very largely.

1345 Q. Almost exclusively, do they not?

A. Very largely.

Q. Then the manufacturing concerns that are engaged in manufacturing telephone equipment as compared to the Western Electric is quite small, is it not?

A. I don't get that question.

Q. The magnitude of the Western Electric in its activities as a manufacturer of telephone equipment is far beyond any manufacturing concern, is it not?

A. I believe so.

Q. It perhaps manufactures, it would be conservative to say, four-

fifths of the telephone equipment in use in the country today, doesn't

A. I can't quote the figures. Q. You judge about that?

A. Possibly.

Q. And it is conservative to say this 4/5ths of the telephone equipment is controlled practically by one concern, is it not?

A. Directly or indirectly.

Q. Yes, directly or indirectly. So that then what might be called the independent manufacturers have to, for the output of the contemplated manufactured articles, to look to not over 1/4 of the telephone world for their sale and the distribution of their products?

A. That would be the inference. Q. There are about how many manufacturing, so-called 1346 independent manufacturing companies that are serving this independent field or independent telephone operators?

A. I don't know how many, but there are three prominent manu-

facturers.

Q. Three. The largest is what one, Mr. Cox?

A. Well, I can't, by size, but the three I have in mind are the Dean, Stromberg-Carlson and Kellogg.

Q. Stromberg-Carlson and Kellogg?

A. Stromberg-Carlson.

Q. That perhaps is the most important manufacturer outside of the Western Electric, is it not?

A. I don't know which of them is the most important.

Q. Well, anyone of them is what you might term insignificant compared to the Western Electric?

A. That is true.

Q. The Bell Companies or associated companies are compelledby existing conditions, if for no other reason, to buy their products from the Western Electric Company, are they not?

A. They are naturally led to deal with the Western Electric Company because the advantages of that arrangement are so obvious.

Q. Well, eliminate that for the present, or overlooking it if you can for the moment, I know you are very strongly impressed with it, but see if we can just forget it for a moment; but aside from that, aren't the physical conditions such that they would be able to buy equipment from the Western Electric?

A. If I understand, you mean because the facilities-

Q. (Interrupting.) In other words, the volume of the needs is such that it cannot be supplied outside of the Western Electric Company?

A. That is true. Q. That is true. To that extent, at least, it wouldn't be a free agent in its purchases?

A. That is true.

Q. Now, with that condition confronting us, Mr. Cox, it occurs to me that we should know something about the expense of these manufacturers and I have no doubt Mr. Duls overlooked it. seem to be quite conversant and familiar and on good terms with the Western Electric Co. Have they ever furnished you with a bill of expense, of the manufacturing expense of say a switchboard, for instance, like the one installed here in the Preston Exchange?

A. I have never personally reviewed just that item. I have made specific investigations of costs on other equipment and supplies, for instance, lead covered cable, I have made a very elaborate investigation of that.

Q. They have no doubt been kind enough to furnish you an expense bill of a switch-board, such as we have installed here. Did you ever ask them for such an expense bill?

A. No, I never had occasion to, so far.

- Q. However, you are representing a lot of associated companies that are compelled to buy from them and you have never checked the expense of manufacture?
 - A. Not of switch-boards. Q. Not of switch-boards?

A. The assembled item I haven't checked up to date.

Q. The switch-board is the most important item perhaps in the telephone operation, is it not?

A. Yes, but it is made up of many small items of equipment.

Now, the individual items of equipment I have reviewed.

Q. But you are not prepared then to tell us in any way what the sum total of the items that go into the manufacture of a switch-board is as compared to the invoice or quoted price to your associated companies, including the Houston exchange here?

A. No, I couldn't tell you that.

Q. You couldn't tell us. You leave us entirely in the dark as to the amount of profit that is reaped by the Western Electric Company from the manufacture of these articles for all the associated companies?

A. No, I have only recently completed a study but that study includes the switch-board with the items that go into it. It doesn't differentiate switch-boards apart from the rest of the items, so I can give you a very close figure on the total profit

in this item but I can't separate the switch-board from it.

Q. Well, I would like to see their detailed expense bills on these articles, Mr. Cox, because, Mr. Cox, without them we are in the dark entirely. We have had the pleasure of listening to eulogy of the Western Electric and it may be entirely correct and appropriate, but still I am just as much in the dark as I ever was about what profits they are reaping on this enterprise.

Mr. D. A. Frank: Well, why don't you ask him?

Mr. Duls: Why don't you ask him what the profit is.

Mr. Howard: He said he can't tell me.

Mr. Duls: Well, I will ask him a question or two.

Mr. Howard: I don't care for his general opinion about it. It is not a matter of opinion.

Q. I would like to know and I would like to see the expense bills, both in 1914 and 1919, on the switch-board and on the different items of lead cable and on the different items manufactured. Have

you any expense bills for the manufacture of induction coil?

1350 A. I haven't those bills.

Q. Or for a transmitter, or for a receiver, you haven't any exhibit showing that?

A. No.

Q. Well, those are the exhibits I am interested in.

Mr. D. A. Frank: You don't seem to want the information that

you have been howling for in the last six weeks.

Mr. Howard: I told you at the beginning of this hearing that I think, as I still think, that the Western Electric Company is one of the indirect methods of profit of the American Telephone & Telegraph Company, who is conducting all these enterprises.

Mr. D. A. Frank: Why don't you ask him that question?

Mr. Howard: Why, I don't know. He is not prepared to tell me because he hasn't the data. He has brought us here a lot of incidental things, but the heart of the thing seems to be up in Illinois or whereever this concern is located. Well, we can't get anything out of that then.

Mr. D. A. Frank: You can't get it without asking the

1351 question.

Q. Well, let's turn then into the other branch, that is the purchasing agent branch. Now, aside from the functioning as manufacturers of telephone equipment, the Western Electric purchases everything else including this paper?

A. Excepting certain excepted articles.

Q. Excepting certain excepted articles, and for that service they receive certain compensation that is set forth in the contract, is it?

A. That on direct shipments from the supplier to the Telephone Company they obtain net cost plus four per cent. If the shipment is stocked at a Western Electric Company warehouse and then shipped to the telephone company, it is the net price plus six per cent. It is four and six.

Q. Now, if they order a shipment of poles from the National Supply Company and they are shipped through to Houston, \$20,000.00 worth of poles, the Western Electric Company gets for that

service four per cent on \$20,000.00; is that correct?

A. There probably is a special contract here on poles.

Q. That is \$800.00 for-well, aside from-

Mr. D. A. Frank: Wait a minute. Let's clear that up before we get off of it.

1352 A. The special contract relates to poles purchased in the field, so that your proposition would be correct.

Q. It would be correct?

Q. On \$20,000.00 worth of poles they would get \$800.00 for just ordering the poles shipped to Houston. Well now, maybe there is something there I can't see, but is that the extent of the service?

A. The four per cent, there covers development of the source of

supply, the passing the papers, paying the bills, handling the whole

thing from start to finish.

Q. Well, what is there to handle, that is what I want to kind of get at. You mystify me, I want to see if I can get so I can see it clear. There is a bunch of poles out there at Escanaba, Michigan, standing out there in the forest?

A. Yes.

Q. And the Southwestern needs them down here at the distribution point, Dallas or Houston, and they tell the Western Electric Company they need \$100,000.00 worth of poles, and the Western Electric Company wires in the order. Now, what great skill, or energy, or responsibility is there to send in that order and what do they do with it after it gets in?

A. The first problem is that the poles are probably not shipped to all points, they are probably shipped to specific points, carload by carload, and those poles have got to arrive at the point where they are needed at the time they are needed.

Q. Well, you say—let's take \$20,000.00 worth of poles. About how many carloads would that be? An average pole now is worth about eight or ten dollars, isn't it?

A. I don't think it would be as much as that.

- Q. Well, some of them are worth more than that? A. Oh, say, \$4.00 would be my estimate, maybe it is too high.
- Q. Five into twenty thousand, that would be four thousand poles. Have you any idea how many carload lots would be in 4,000 poles?

A. I don't know. A good many, evidently.

Q. Well, they ought to be able to carry a couple of hundred, say, there was 20 carloads.

A. A couple of hundred poles.

Q. A carload? A. There

Mr. Duls: Mr. Pennell can tell us how many poles in a carload.
Mr. Pennell: It depends a good deal on the size of the poles.
Mr. Duls: How many, Mr. Pennell, on an average, say a 25-foot pole, how many to a carload?

Mr. Pennell: Well, I think they could run something like 50. Mr. Duls: Might run up as high as 100, mightn't they?

Mr. Pennell: Well, 50 is twice a hundred, wouldn't run that much.

Mr. Duls: One Hundred is twice fifty, you mean?

Mr. Pennell: Yes.

Q. Well, 50 then, 50 into 4,000, would be 80 cars. What would the Western Electric Company have to do about that?

A. It would have to follow those cars right straight through

from shipment to destination.

Q. Follow them how?

A. By means of the ordinary means of freight tracing, so that they would know just where those cars are.

Q. Aren't you giving the railroad operators credit for any sense at all?

A. Unfortunately, you couldn't trust the railroad where you would have your gang hung up waiting for those poles.

Q. So it would cost you Eight Hundred Dollars on Twenty

1355 Thousand Dollars' Worth of Poles, to see that those poles arrive at destination.

A. For all of those services connected with that, in which this is an incident.

Mr. D. A. Frank: Go on and tell what those services are.

Q. Yes, I would like to know what those services are.

A. Well, of course, the poles are all inspected, every single pole is known to be up to standard, the bills are paid through the Western Electric Company, there is a certain interest involved in carrying these before they are paid by the telephone company; there is, of course, all the billing.

Q. Where is the inspection and what requires that the poles are of a certain standard requirement, and if those requirements aren't

met, they are not going to be paid for, will they?

A. If poles that aren't up to specifications are delivered, then there immediately falls a substantial loss on the telephone company because the gang, — you might reject the poles, but you can't provide the men with work.

Q. They deliver these poles F. O. B. a certain place, don't they? A. They usually deliver them, such a shipment as you

1356 have in mind, along the road; that is not a stop over or such a matter as that; that is to provide poles at a great many places, and those would have to be-they are ordered for particular purposes, and they are ordered for gangs that are going to use them, and if they are not delivered on time, there is a loss in labor, if the poles are not in exact accordance with the order, there will be a loss of labor. It is a very serious matter, and where you have gangs that way, you can't afford to take a chance.'

Q. Well, let's see where the loss- in labor are going to occur? A. The first thing you are going to do, the first part of the construction is placing the poles. You can't put on the cross arms, you

can't string your wires-We are not building telephone plants. We Q. (Interrupting.)

have got that some time ago.

A. You are building poles.

Q. We are putting in poles and supplying poles, and maybe building a little extension of the pole line. Now, where is this? Let's get down and see about this real money that is being spent. Here is \$800 for buying an order of poles, and let's see now where you turn loose some real money. You send in the telegram first to

the manufacturer that you want these poles delivered at a

1357 certain place? A. Yes.

Q. All right, then what is next?

A. Certain poles.

What is the next step?

Q. What is the next step: A. The next step is to be certain that those poles are of the right

kind, which are actually shipped, how they are shipped, the car numbers and every other detail that will serve to identify the shipment at a subsequent time.

Q. Now, doesn't the pole supplier charge himself with any re-

sponsibility at all?

A. The pole supplier? Of course, Q. What does he do?

A. He gives what he considers good material, but matters of that kind-

Q. (Interrupting.) What do you do towards delivering it?

A. He puts the stuff out where it can be inspected, and it is inspected when it is thrown on the car. The pole supplier offers the material and the telephone company starts it, inspects it there and knows that the right stuff is actually shipped.

Q. Notwithstanding the supplier is under the obligation to meet

specifications when he delivers his poles?

A. It is exactly the case that I have had in my own experience where I have been dealing with underground conduit. You find that is sometimes made of wood, creosote, and I have

seen duct installed in the trench and the thing covered up and an expensive pavement reproduced over the top-

Q. (Interrupting.) Now, I am talking about poles.

A. This is wooden work-

Q. (Interrupting.) If you don't mind, we will stick to the poles. The supplier is to furnish poles up to a standard, certain specifica-

tions, and to deliver them at some particular place?

- A. Well, I want to give my illustration of that, and my illustration is the case of duct uninspected delivered on the job, the result being that it gets into the plant and at a subsequent period, when you come to draw the cable, the cable cannot be drawn, and the hole has to be-
- Q. (Interrupting.) Let's see. We'll branch off into ducts. Where is the cable installed and where is it put in and where is it?

A. This is an underground cable—Q. (Interrupting.) Put in at a certain plant?

A. Yes, sir.

Q. And the Western Electric Company has a man here at a-at the place of installation seeing that an improper duct doesn't get under ground?

A. That is their process of inspection.

1359 Q. Do they do engineering work for these companies, this structural work you are speaking about now?

A. I am talking about just the duct itself, the raw material which is factory made, that is inspected.

Q. You mean inspected at the factory?A. I mean inspected at the factory.

Q. Now, what is the man here that is putting it into the ground, what is he doing to let a piece of bad duct get by him?

A. Because the man there that is putting that into the trench is a much lower grade of labor. He is a German or Polander.

Q. Well, we have been charged up here time and time again with all sorts of supervision charges, contingencies and omissions and everything of that kind. W-at are those men doing here?

A. I don't know what kind of duct was referred to here, I am

talking about creosoted wood duct.

Q. Cresoted wood duct, although the manufacturer is under obligation to deliver a standard article up to specifications, yet you inspect it and get paid for inspecting it and create that charge against the consumer?

A. You are getting a little involved here, but the case that I presented is what happens when the duct is not inspected.

1360 Q. Yes, you say that the duct that is not inspected will come through here and goes out into the plant?

A. It gets in the plant.

Q. Well, but you are assuming now that there's nobody got eyes

at all here on the

A. (Interrupting.) No, I will for your benefit just explain the one further step that is obscuring the matter in your mind at present. This creosote duct: There is a three-inch hole bored right through this.

Q. I know what a duct is.

A. Now, that three inch hole doesn't start 3 inches, it starts with a smaller hole, say two inches in diameter. In other words, the bit that makes it is small and then it enlarges as it goes back. You can hold that thing up to the light and you can see a nice round hole at the other end, and unless you have got a very capable man, he will say this duct is all right, but it wasn't mandrel inspected at the factory. Q. Who manufactures these ducts?

They are manufactured at various places.

Q. Then the basis of your whole charge is on the assumption that a manufacturer won't comply, although he is under obligation to do it, won't comply with his specifications and that perchance the duct will get by the factory and their inspectors there?

A. Yes.

happening down here in the plant?

Q. Every well organized factory has its inspectors to see 1361 that they are not shipping out bad ducts and that they are not bringing down upon them the complaints of the commercial world from whom they are trying to get the business?

A. They have people that do it, but everybody makes mistakes. Q. Everybody makes mistakes, but now for fear that there might a few, one or two, or half a dozen, of these get by the manufacturer's inspector, the Western Electric puts an inspector on there and charges for it, and then sends the ducts down here to the plant, and then the plant engineers go to install the ducts in the plant and it gets by them, but you haven't any protection against any such mishap

A. The principle is just this, that the most economical method of construction is followed. Now, if that method means a higher degree of inspection at the source, that is the method followed. If it is best to stand a certain amount of defective material delivered on the ground, that method is followed. But always the thing is considered in its peculiar aspect, as to which in the long run, which is the

cheapest and the most economical.

Q. Now, this company, this American Telephone & Telegraph Company that is contracting with another company that it owns has come to the conclusion that it is the most economical thing to employ one of its own companies to inspect all these articles as they

leave the different factories? 1362

A. It is necessary.

Q. To prevent a chance of a piece of duct getting underground when it ought not to have been there?

A. Exactly, if you don't inspect it-

Q. (Interrupting.) Well, let's say we are inspecting duct now, a high, reputable manufacturing concern has its own inspector as these articles go out to the transportation company. Now, when he looks through these ducts, why don't he discover it?

A. Well, he is dependent on human labor.

Q. What is the Western Electric Company dependent on? You don't have men of your skill and intelligence look through ducts as they go along?

A. They have exactly that type. They have men that have been

trained in the art. I have done it myself.

Q. Do you mean to say-

A. (Interrupting.) I have done it. Q. But you are not doing it now?

A. Well, I have done it once, and I am the same man that I was.

Q. Well, but to get your mind back to that, that is the service that you perform for this 4%, upon every direct shipment that comes from the factory to this plant; here, they are paid the 4%?

 A. Yes.
 Q. Twenty-five four per cents make one hundred per cent, 1363 doesn't it?

A. Obviously.

Q. What is to prevent an ordinarily intelligent man here like Mr. Prentice sending a wire to the National Supply Company telling them to ship a certain number of poles, and when the poles get here to look at them and have them inspected by his engineers and if they are faulty to bill back to the manufacturer the loss?

A. That could be done excepting in the cases where you have your accounts coordinated with the stream of material. Now, if you can afford to switch your accounts to other work and to make up the loss in time while you are waiting for the poles to be shipped and

replace them, why that could be done.

Q. Isn't it a fact that all this standard of organization and efficiency is due to the fact that you must have it in order to conduct these large incorporated or associated companies that are practically absorbing the entire business of the country, and it is the fact of the volume of the business that itself makes it top-heavy with all this organization and this added expense added upon expense in the way of organization?

A. It is this: By adding these features of protection by standard-

ization, we are enabled to do a far better job at a far less

1364 expense. Let me illustrate-

Q. (Interrupting.) We'll admit that, Mr. Cox, where you are carrying on a business of this volume all over the country and in order to handle it at all, you have to standardize it. In other words. individuality largely is eliminated and you work things according to standardization?

A. Yes, sir.

Q. And you adopt a lot of standards and practices, this and that, and A and B and C and D when you run out of numerals?

1365

A. Yes.

Q. And refer to them in that way and you try to apply that all over the country to all of the different and changing conditions of the country. Now, I say, aren't those things brought about just by the building up of a top-heavy system of that kind and that an ordinary independent concern operating a telephone company would not be burdened with all these charges that you are tacking on here like the American Telephone & Telegraph Company and the Western Electric Company charges, and there's two sorts of incidental and overhead charges before these articles ever get in use to the consumer here?

A. Now, the individual company-

Mr. D. A. Frank: Answer his question, Mr. Cox, answer that direct question.

Mr. Howard: Let Mr. Cox testify, if you don't mind; he is a pretty intelligent man as I judge him.

Mr. D. A. Frank: We agree that he is intelligent.

Mr. Howard: Well, let him alone.

A. (Continuing:) Your illustration is that the small company can get along with much rougher, cruder methods?

Q. No, it is not necessarily that.

A. I thought that is what you did say.

They don't need this standardization, standardization Q. No. costs money. You have illustrated that. It costs money. Now, I say that an independent concern here and the independent manager can order its poles without any tribute of 4%, or \$4 out of every \$100 that he employs in his investment.

A. Now, the answer is this: Now, the independent manager is doing a local business, it is right there, it is not attempting to do anything but a local business. Just as soon as you have a national situation, your plant must be built to function with Boston, Minne-

apolis, or San Francisco, you are on an entirely different plane. The perfection of your detail must be absolutely as-1366 sured, and you cannot do it by the haphazard manner of

letting the manager decide.

Q. Now, there is the trouble as I see it, Mr. Cox, you all have got your ideas built upon the perfection of the great business plans that you have worked out that enable you in rather a smooth way to run a business of tremendous magnitude; you have gotten that figured out; but you take an independent company here operating

this local telephone exchange and all those toll lines reaching to those cities that have these local exchanges, then isn't the local concern relieved of the necessity of a great many of these expenses that you are building up in the way of purchasing agents and high-priced organization for engineers?

A. They are relieved of the expenses of that organization, and they are also debarred from the profits, from the benefits which such an organization achieves. Now, take as the simplest case the standardization situation. I mention that because it is exceedingly simple but it is one of the most recent things that has been done, and therefore it is absolutely fresh in my mind, and the conditions are exactly what you are setting up in regard to the plant. Now,

1367 three years ago we made such a study and of course, in order to make a standardization, you have got to know first of all what is being bought. So we went through and got the tabulation. all of the different kinds of items that were being bought, and what did we find? We found that rubber bands,-why, you say, that is simple, any office boy can go out and buy rubber bands.—we found that we were using five tons of rubber bands in the local system, and that those rubber bands were being purchased all the way from 80 cents a pound to \$2.24 a pound, the identical rubber bands from the same manufacturer in many cases. Now, what hap-When they were standardized, we bought all the rubber bands we needed at 60 cents a pound. There is the advantage. might pay 4% but we save 35% on some items.

Q. But what occurs to me, this economy is just like the old lady that said her husband filed a darning needle in half a day so that it was just as good as new. Now, take a local concern, they don't need to have a corps of engineers to buy the rubber bands. Now, they might—there wouldn't be any great saving in that, would

there?

A. It is settled once for all. You have made the study, found out the size of the bands that you ought to use, you have saved all of the little purchasing agents from considering the problems at all, and you buy what you want under a contract which is very highly beneficial in the price. 1368

Q. I understand that, but here you have got pointed out to us this 4% and your Western Electric Company service, but the service is costly, the thing of keeping a corps of engineers in the City of New York, four or five hundred employees, and 16-story buildings. and the traveling expenses, and these engineers all over the country, it is a tremendous expenditure of money. Those things while they are nice and standardized, yet they have to be paid by somebody, the business has got to carry it finally. Now, I will just ask you this question, as I asked Mr. Blair Smith yesterday,—The evidence in this case shows that at a rate, at the highest rate proposed, submitted as the highest rate the traffic will bear, \$9 and \$3.50, that they set aside the depreciaton fund that they say they are entitled to, they pay the operating expenses, and after all those things that are stated as legitimate charges are paid, in a community they say is well adapted to the industry, and the people are educated to the

use of it, and there is a demand for it, permitted to charge all the traffic will bear, it won't show a return upon the investment of one per cent. How do you men that are skilled and up to the art of telephony, how do you account for it?

1369 Mr. D. A. Frank: We don't think the testimony shows that, Mr. Howard.

Mr. Howard: Well, I think it does.

Judge Powell: Well, that is just a question of the construction of the testimony.

Q. But if it does show that, then what—where is the trouble, how do you account for it, where is the wrong?

A. Well, I am not familiar with that case and I would rather be excused from attempting an answer to that.

Mr. D. A. Frank: How could a man answer that question if it were true?

Mr. Howard: Well, there should have been some investigation, or some management, it may be that this so-called efficiency that you are indulging in is not what you claim for it, because these are stern facts that confront-

Mr. D. A. Frank: It might be true also that the City had refused to let the rates be raised and the people are not educated to the

proper rates, not enough to pay a fair return.

Mr. Howard: No, that all seems to be demonstrated, more applications for phones.

Mr. D. A. Frank: I know but at reduced rates, not at a fair 1370 rate.

Q. Now, Mr. Cox, as I see the situation, your relation with the Western Electric Company, you have a great many companies engaged in the operation field that are using a certain class of equipment and great quantities of it.

A. Yes.

Q. You have another company that is owned by the American Telephone & Telegraph Company, well, I am saying owned, in the sense that it owns the stock, that is engaged in the manufacture of this equipment, the conditions are such that the users of the equipment have to buy direct from the manufacturer, what is there, what law of Congress or of trade, or self-interest, or anything, is there that protects the consumer from paying or having to pay any price that is levied upon him by the manufacturer other than the ordinary sense of justice that might exist?

A. It is the very exceptional conception of the Bell System to give

the best service at the cheapest possible price.

Q. Well, now, you see, we are in the attitude of where we have to take your word for that, you all tell us that, you tell us that we are getting the best service and we find the service is coming very 1371 You are asking for exceedingly high rates and the

facts that the company that is operating here and putting in this property is also engaged in the manufacture of this equipment and selling it to us, and it is acting in a dual capacity, both selling

us the public service here and putting into operation the property upon which it asks for a return. Now, it has the whole situation in its control, the exclusive, practically speaking, the exclusive manufacture of the product and can require purchases from its manufacturer and under those conditions, then it puts the property in here and asks these people to pay a return; there is no freedom of contract between the operators, between the operating company here and the manufacturer. Now, we are entirely dependent upon the sense of justice of the American Telephone & Telegraph Company as to what it is going to charge us for this property that we are paying a return on, aren't we?

A. You can ascertain if you wish what this service is actually netting in the way of profits; there are facts available that I can testify to if you care to ask me.

Q. Well, that condition does exist that there is no limit, the more the manufacturing concern that furnishes the property here for use charges for the manufacture of the product, the more the profits will

be to the owner, to the real owner of the company that uses 1372 it, won't it? We are in that situation, that the more the owner pays for his property that he puts in use here-

A. (Interrupting.) Yes.
Q. (Continuing:) The more that will come into the pocket of the real owner of the operating property?

A. That is a possible condition, but that is not the condition that

I am here to tell you if you want to know.

Q. But we have reached the condition in the telephone business today in this country where every user of telephones is using it with that condition confronting him, haven't we?

A. Yes, yes.
Q. Now, you say that you are here to tell us that you have not abused the power that you have in that regard?

A. Yes.

Q. Well, can you tell us now, just in a general way, or can you give us the figures such as I referred to a while ago, the expense bills

of the manufactured products?

A. To take one single item of the manufactured product and reply on that would not be a suitable answer to the big problem that you are confronted with. You have got to consider the whole classification of supplies. Now, that is the figure that I am prepared to

You want to know in this case of this telephone ap-1373 paratus that is what the Western Electric Company manufactures and the contract on that has run less than 8% of the

investment in order to produce it.

- Q. Well now, you tell us that, Mr. Cox, and, of course, I haven't any idea in the world but what you are a truthful gentleman, but back of that we have to take it upon trust, because we haven't seen any exhibits of expense.
- Mr. D. A. Frank: You wouldn't know what it meant if you did see them.
 - A. It would be fragmentary, there is nothing to it.

Q. Have you any way of arriving at it? Why do you say that it

is less than 8%, Mr. Cox?

A. Because the bookkeeping for the Hawthorne warehouse where these items are manufactured is so seggregated that the cost of making the telephone apparatus are kept separate from other organizations and I have reviewed those prices and know that for that industry as a whole the production of those items has been less than 8% of the cost of investment to produce them; individual items, some of the items might be more than 8% and some might be less, because there are a great many things that enter into the question of price for individuals.

Q. You tell us now that you have gone over the detail, the cost of the raw material and added the freight charges to the factory,

1374 and the overhead expenses of the factory, the labor costs of the manufactured article, and the return upon the capital engaged in the manufacturing industry, and have detailed all those different items that make up the final cost of the product?

A. Those have all been seggregated.

: Q. You have seggregated and gone all over those and applied them to the different items of manufacture, different articles of manufacture?

A. No.

Q. I want to see how you get at your average. You must have applied them to each article of manufacture before you got it, be-

cause this is the general average of 8%?

A. No, no, I couldn't give the cost of each item. I can give the cost of the whole thing and then by subdividing that, you get to the cost of any particular item, but to get the whole is a far easier process than to get the various parts under the system of accounting that is foll-wed. You can get the whole classification very easy. Those are big units.

Q. How did you get this information of 8%? I am interested to

know that now. Just how did you arrive at it?

A. There are certain accounting processes that are followed in the Hawthorne works. The first step is to verify and see that the accounting processes that are followed will produce correct accounting

results. That has been done. The next is to verify sufficient of those transactions to certify that the accounting processes are infallable. Now, when that is done, you can use the summaries as they come from the Hawthorne works to build up your

studies and arrive at the actual figures of the cost of the product.

Q. How much time did you ever put in checking the Hawthorne

house, Mr. Cox?

A. About 10 days at Hawthorne and with other people. I haven't done this alone.

Q. How large a staff did you have?

A. Well, at that particular time, there was 40 men including myself and in New York I had 2 men working for some weeks on the matter.

Q. And you satisfied yourself that the profit, average profit of the Western Electric Company on its manufactured products, was 8%? A. Was less than 8%.

Q. Was less than 8%, and yet upon a mere order or shipment, the Western Electric Company charges 5%?

A. Well, now, that is another classification of the business. Per-

haps I didn't get your question just right.

Q. I know, but I was trying to get something about these relative values.

A. Would you like to know the profits on that side of the business, would you like to know the large sums that are being

1376 secured from that branch of the service?

Q. I am not particularly interested in it unless it will throw some light on this investigation, because I am not losing sight of that after all that we are trying to find out what earnings are involved here and what property is invested and what returns, either directly or indirectly, are accruing to the American Telephone & Telegraph Company.

Mr. D. A. Frank: Why don't you let him do it then?

- Q. If it would throw some light on this, I would like to know it then.
 - A. It is less than three-tenths of one per cent.

Q. What is less than three-tenths of one per cent?

A. The profit on handling this business of buying from other manufacturers and acting as the agent in supplying the Telephone Company with these items.

Mr. D. A. Frank: Including poles? A. (Continuing:) Including poles. Mr. Duls: And rubber bands?

A. (Continuing:) To be still more specific in the matter, there has been a total of over \$250,000,000.00 purchased that way and the net profits on that business have been \$30,000.00.

Q. Mr. Cox, not doubting your good faith at all, but yet very much dissatisfied with this question of 8%, due to your close relationship and good terms upon which you stand with the Western Electric Company, can you get an expense bill of the switch-board manufactured?

A. I could get such a bill, but it would not be what you anticipate,

owing to the method in which that bill is put up.

Q. Well, I want to know, isn't there some way, it is a thing which can be done and any manufacturing concern should do it, is to keep the cost of their manufactured article from the time the thing leaves the forest or the mine, or whatever it is, until they turn it out ready to be put upon the cars, and if they don't do that, whether it is the Western Electric Company or any other concern, they are not running their business in the right way.

A. The Western Electric Company can tell you the price, but don't take the switch-board, take an item of the switch-board, take that desk stand. Now, that desk stand is made perhaps of—well, we'll say 20 parts, each one of those parts is in process, going right through the factory all the time and you cannot say that that com-

pleted desk stand was made of certain parts made at a certain price. You know that the parts are coming along at one time, other parts at another time and the same parts go into the same thing, and that may be built up of other parts accumulated through different things at different costs; in other words, it is a

conglomeration of items. Now, you would have to go down and

get the detail that would show you the cost of the base-

Q. (Interrupting.) It is rather an exceedingly detailed transaction and it would be a detailed method no doubt, but as it involves a good deal of money, and it should be done, it looks to me that you come here with an operating and manufacturing branch of this same concern and are charging, putting in this manufactured product, there ought to be a clear showing as to what the profits are, and I don't think you have showed it.

Mr. D. A. Frank: Well, we think we have.

Mr. Howard: Well, let it rest on that.

(By Judge Powell:)

Q. Is that 8% of the capital stock or 8% of the volume of business?

A. 8% on the investment to produce it. That means, the plant, the machinery, all of the fixed capital involved in making that turn out. In other words, it is your gross less your expense

1379 applied against the investment in your plant.

Mr. D. A. Frank: Why don't you find what the American Company get out of it?

Judge Powell: They get the 8%, they own it.

Mr. D. A. Frank: No, that isn't the dividend, that is what they

make on it.

Judge Powell: It don't make any difference whether you get any dividend or not, Frank, same as you acquire a surplus.

Q. Does the Western Electric Company discriminate against independent telephone companies?

A. It charges independent companies a higher price than it does

the Bell Companies for the same items of apparatus. Q. What is the reason for that, do you know?

A. One reason is that they get no other service.

Q. They get what?

A. They get no 4½% service.

Q. Why, I thought the American Telephone & Telegraph Company was the one got the 4½% service?

A. They get the lower price on the apparatus.

Q. What is that?

A. They get the lower price on the apparatus.

1380 Q. Who does?

A. The associated companies pay 4½% to the American Company and they get the lowest price from the Western Electric Co. The independent company makes no such payment and it has to pay a higher price.

Q. Is that the idea? In the different charges you try to add on that $4\frac{1}{2}$ %?

A. I am simply stating facts.

Q. They discriminate against the independent companies?

A. Not a discrimination. There is a differential against them, that is all.

Q. Now, is there any purpose, do you apprehend or do you know, to put the independent companies, to embarrass them in carrying on the business?

A. To put the

Q. (Interrupting.) To put the independent companies to disadvantage in carrying on the business?

A. Not the least, but obviously the service to the independent companies would be second to the service to the Bell Companies.

Q. The American Bell Companies are absorbing and taking over these companies one at a time?

A. Whenever permitted by the legal authorities at Washington.

Q. Undertaking to get control of all the wires in the United States?

1381 A. Just as required by the local authorities and as agreed to by the Department at Washington, Department of Justice.

Mr. D. A. Frank: Selling a good many too, aren't they?

A. Yes.

(By Mr. Howard:)

Q. The Bell Company selling a good many telephone companies?
A. There has very frequently been an adjustment of territory,
Bell retiring from the one section and the independent retiring from
another section.

Q. Now, Mr. Cox, you have given us the fullest information you can in regards to the profits of the Western Electric Company, have you, upon the manufactured articles they sell to the consumer here in Houston?

A. I think I have given a very excellent, very full explanation

of the situation. It could be extended indefinitely, but-

Q. (Interrupting.) You have overlooked a fact, which we have got to consider a little bit, material, the detail of the manufactured cost of the Western Electric Company?

Mr. D. A. Frank: Manufacturing what?

Q. Manufacturing cost; you tell us certain things about profits, but you haven't furnished us for some reason, perhaps over-looked it.

Mr. D. A. Frank (interrupting): He has testified about that for half an hour.

Mr. Howard: No, he hasn't furnished us a thing. If you will show any bill or detail of manufacturing cost, I will refer to it.

Mr. D. A. Frank: Why didn't you send an auditor or expert or somebody to Hawthorne to find out something about it?

Mr. Howard: Because you are coming here, asking for an in-

creased rate and leaving this proposition open, your manufactured articles that we are forced to buy, and we don't know what profits you are making on them. If you are making these profits, undoubtedly you are not entitled to equitable relief.

Mr. D. A. Frank: Why don't you ask for that?

Mr. Howard: I have asked for what we are entitled to.

Mr. Duls: Furthermore, you are not compelled to buy it.
Mr. Howard: Why, he has stated that and anybody that 1383 knows, knows he is compelled to buy from the Western Electric Company. That is all. Without the detailed records of

the manufacturing cost, I think we are right where we started from on this proposition.

Mr. D. A. Frank: I think you are.

Redirect examination.

Questions by Mr. Duls:

Q. Mr. Cox, this paper and these rubber bands and all that Mr. Howard was asking you about was all furnished under this supply relationship?

A. Yes, sir.
Q. As distinguished from the manufacturing relationship?

A. Entirely.

Q. You say that the profit that the Western Electric Company makes on this supply arrangement averages less than three-tenths of one per cent?

A. I do.

Q. Does the Western Electric Company have any stock, is it a corporation?

A. It is.

Q. Do you know what per cent return the stock pays?

A. Yes, there are two classes of stock. There is preferred stock, of which there is 300,000 shares, paying 6%, and there is common stock of no par value which at the present time is paying \$10 a share.

Q. \$10 a share, what per cent is that?

A. It has no par value, so that you can't-

(By Mr. Howard:)

Q. Just pays a return of \$10 a year, you mean, Mr. Cox?
A. \$10 a year.

Q. No par value?

A. In other words, on the books of the corporation, the issue of this stock without par is applied against the surplus, and there isn't any surplus so-called, it is not designated that way, but the amount set opposite the issue of this stock as a liability is the amount of what would be a surplus.

Q. How much of that common stock you say there was?

A. 180,000 shares.

Q. How many shares of preferred?

A. 300-

(By Mr. Duls, interrupting:)

Q. And the preferred pays 6%.

A. Yes.
Q. Have you any way of reducing the common stock to a par value and ascertaining what the return on that would be?

A. I haven't the figures to do it.

(By Mr. Howard:)

Q. In arriving at this 8%, did you check up carefully the salaries of the officers of the Western Electric Company? 1385

A. The pay-rolls were examined.

Mr. Duls: They are expenses, pay-rolls are an expense account. How is a man going to ascertain the return unless he knows what the expenses are?

Mr. Howard: Well, I asked him. They pay-rolls would be a nice thing too. Where you have got a nice proposition like that, if you don't work it. I think you are paying for it, that is all.

(By Mr. Duls:)

Q. Are these associated companies able to purchase their supplies through the Western Electric Co.?

A. No, not at all.

Q. Can they direct the Western Electric Company to buy from independent sources altogether? A. They can and they do it.

Q. I mean, independent sources?

A. I shouldn't say they do because they don't direct them to buy wholly; they do direct the Western Electric Company to buy from time to time from independent companies.

Q. For example, the Dallas Telephone Company is installing automatic equipment in the City of Dallas at the present time 1386 in some of its exchanges. Is that purchased through the

Western Electric Company?

A. It is.

Q. Still from whom does the Western Electric Company purchase it, do you know?

A. No, I can't answer that question specifically.

Q. Do you know whether there are any other Bell companies that are purchasing from the Automatic Telephone Company in Chicago?

A. I am not familiar with that fact.

Q. You do know, however, that there are instances in which the Western Electric Company purchases telephone apparatus manufactured by independent people like the Kellogg?

A. I do.

Mr. Howard: What does the Western Electric Company purchase at all, it is not-

Mr. Duls: Well, you tried to get Mr. Cox to say that the associated

companies were compelled to buy from the Western Electric Company, you mean the associated companies?

Mr. Howard: I mean the associated companies, through the West-

ern Electric Company.

Mr. Duls: Well, you didn't say that. Mr. Howard: It was my mistake then.

1387 (By Mr. Howard:)

Q. Well, Mr. Cox, I understood you to say awhile ago, and it is probably the fact, that they are practically required by the conditions, there is no supply that is adequate outside of the Western Electric Company, didn't you?

A. That is true, nothing to do with the contract, just the physical

conditions of the business.

Q. That is what I mean, the physical conditions are brought about so that to all intents and purposes, they have to buy from this Western Electric Company?

A. That is right.

(By Mr. Duls:)

Q. Do the independent companies purchase any material from the Western Electric Company?

A. They do.

Q. Do you know what percentage of the business of the Western Electric Company was composed of sales to independent companies?

 A. It was nearly 50% last year.
 Q. Do you mean that the Western Electric Company's total sales of telephone apparatus was 50% to Bell Companies and 50% to independent companies?

A. As I recall the figures of last year's business, it was \$70,000,-000.00 to Bell System companies and \$67,000,000.00 to non-Bell

Companies.

Q. Naturally, if the Western Electric Company was mak-1388 ing unreasonable profits on its manufacturing business, it would have to charge unreasonable prices for its manufactured articles, wouldn't it?

A. It would.

Q. Does the fact that the independent people buy material from the Western Electric indicate to your mind that the prices are reasonable, or unreasonable?

A. It indicates that the prices are reasonable.

Q. Does the Western Electric Company sell in competition with the Independent manufacturers?

A. It does.

Mr. Howard: Your Honor, I don't think that this line of inquiry should be indulged in and especially when there is better evidence to This is the situation that is developed here, that this American Telephone & Telegraph Company, which owns the two companies, the Western Electric Company and the Southwestern, the

Southwestern is operating a telephone plant and giving the public telephone service. The same company, which makes it all the same thing, is engaged in manufacturing, and they are before this court seeking equitable relief restraining the functions of the rate regulating body. Now, when that relief is invoked, and I am saving this now at a time when they can put in the testimony and do it before

they can invoke equitable relief, it devolves upon them to make a full and fair disclosure of the manufacturing branch that is furnishing this material to this operating company,

Mr. Duls: We have been spending the whole day——
Mr. D. A. Frank (interrupting): That is what we have been try-

ing to do all along.

Mr. Howard: You are trying to do it by indirection, and coming here and asking a man his opinion about things and coming here and asking his conclusion about a matter when it is within your power and within the power of the company that operates this exchange here and that also owns the manufacturing company that sells the equipment that goes into this exchange and fixes upon it the values and cost upon which you are seeking a return, it is going to devolve upon them to show a clean bill of health in regard to its relations with the Western Electric Company and that can be done only by bringing in a man not connected with the Western Electric Company or who is connected with them and incidentally and who in a cursory way checked up its books, but if they want to do these things let them come in here with the operating managers of the

Western Electric Company and make an exhibit of the cost 1390 of their manufactured products and the prices that they are charging because until that is done, there is no definite testimony and there is nothing upon which there can be any determination as to the profits that can be indirectly forced from this community here by levying profits upon manufactured articles under this compulsory-these compulsory sales. Now, they needn't do it unless they want to, but they are going to confront this proposition of asking for equitable relief when they have not and are not making a full disclosure by the best testimony that is within their power to

bring forward upon that matter.

Mr. D. A. Frank: I venture to say to Your Honor, that if there were 400 witnesses possibly that we could get and we have had 399 out of them here, that counsel would object that we didn't have the Now, it wasn't incumbent upon us to go into this matter at We have done it because of the intimation thrown out by counsel in the beginning of this case that there was a great secret profit made by the American Telephone Company with its relations through the Western Electric Company. That proposition is not before this court. We are getting off into interrelated companies and finding out what costs have been incurred in making certain

pieces of manufactured articles for the telephone industry. The question before this court, as I have called to the atten-1391 tion of the court quite a number of times since the beginning, is whether or not by the ordinance of the City of Houston establishing certain rates, that the property of the Southwestern Telephone & Telegraph Company is being confiscated. The question as to whether or not we are paying the proper amount for our equipment and for the tools and for the telephone apparatus which we are using does not become pertinent. It is not a question as to what they cost, but the question is whether or not the cost to us is reasonable. When we come in here before Your Honor, and show that the Western Electric Company is the largest manufacturer of telephone apparatus in the United States, and that-

Mr. Howard (interposing): You might say the sole manufacturer. Mr. D. A. Frank (continuing): It is not the sole manufacturer.

Mr. Howard: Practically so.

Mr. D. A. Frank: It is not the sole manufacturer. largest and it is probably the largest because of the fact that it has been doing business on a reasonable basis. Now, we have 1392 come in here and we have shown that in a purchase of \$550,-

000,000.00 worth of apparatus for the telephone companies, the associated companies of the United States, there was a profit to the Western Electric Company of only \$30,000.00, indicating that the work was being done for the associated companies practically at cost, that on the manufacture of the instruments which have gone into this plant, the Western Electric Company has made less than 8%, it is well known to Your Honor, and it is a matter of common knowledge that most manufacturers get from 15 to 20 per cent ordinarily, and that during these war times they made a considerably

higher per cent than that.

Mr. Howard: Right there, I wasn't urging any objection here with the idea that the court is going to rule on it. I am just wanting to state to you now, that this is not the best evidence to make before this court of what I consider a fair disclosure. You speak about your eight per cent and you proved that by a witness who is not connected with and who is not one of the operatives of the Western Electric Company. We have asked you for the records of the company showing in detail and in the best way what you are making and what these articles cost you. Now that is for you. If you think that you have made such a disclosure as one who is seeking equitable relief

is called upon to make, why let it rest there. I am perfectly 1393 willing to, but I want to notify you now that I don't consider

that you have done it.

Mr. D. A. Frank: Well, you wouldn't be satisfied it would make no difference what you had.

Mr. Howard: Well, I may be wrong.

Mr. D. A. Frank: I think you are wrong.

Mr. Howard: But it is my idea that coming in here and instead of trying to prove in an indirect way by general conclusions and by statement of round numbers that you make 8% that you are in a position because this company here owns them both that it has all these records within its control, and that they haven't been forthcoming. That's all I have to say about that. You can go on and put in all this indirect testimony that you want to, all these collateral matters, and withhold the best and direct evidence if you care to do it. Mr. D. A. Frank: The trouble with you is that you start out with a certain theory and it makes no difference what the evidence is, your theory is not changed by the facts. Now, you start out here

in the first part of this case intimating and charging that 1394 it was the American Telephone & Telegraph Company, the American Telephone Company was getting a big dividend. We have brought a witness here who proves that the average is less

than 8%.

Mr. Howard: You had a witness here that states it as his belief, a witness that is not engaged in the work of the Western Electric Company at all, who is not an executive, or even a subordinate officer

of it.

Mr. D. A. Frank: He is the very man, though, that is the "watchdog" of the Treasury. He is the very man that is selected by the American Telephone & Telegraph Company go guard the interests of the associated companies in order to see that the associated companies are not imposed on and discriminated against, and his testimony shows that we are not discriminated against.

Mr. Howard: But he has testified to this, that the Western Electric

Company charges for its manufactured products the

Mr. D. A. Frank (interrupting): That is axiomatic, but he has also testified to the purchase of \$550,000,000.00 worth of property on which there was \$30,000.00 worth of profit, that on the manu-

1395 factured articles less than 8% was being made, that the dividends were on the basis of much less than 8%, the great majority of the dividends were on a six per cent basis.

Mr. Howard: Having it within your power to furnish the best

evidence-

Mr. D. A. Frank: We have furnished the best evidence.

Mr. Howard: If you are satisfied that you have discharged that

duty, why all right.

Mr. D. A. Frank: We are satisfied that we have gone further than good conscience requires us to go on this proposition.

(By Mr. Duls:)

Q. Mr. Cox, I don't know whether you answered my last question or not. Mr. Howard interrupted your answer I think. The question was this: Is it a fact that the Western Electric Company's manufactured products are sold in competition with the manufactured products of independent companies?

A. Yes, they are.

Q. And there are four or five of such companies in the United States, such independent manufacturing companies?

1396

A. I mentioned three of them. I don't know the others.

A. I mentioned three of them, I don't know the others.
Q. Have you testified that approximately half of the business of the Western Electric Company is done by the independent telephone companies purchasing their telephonic apparatus from the Western Electric Company?

A. No, I didn't testify just that. I said that approximately half

was with the Bell Companies, and the other half was with non-Bell Now, they deal with the other people besides the in-Companies. dependent telephone companies, so-

Q. (Interrupting.) Yes, well, at any rate, half of the business that the Western Electric Company has done under its manufactur-

ing organization has been with independent people?

A. Yes. Q. Purchasing the manufactured articles of the Western Electric Company?

A. That is right.

Q. Now, Mr. Cox, you could go on all day long and detail the savings to the Southwestern Company here from the standards which the Western Electric Company has effected on the different materials that it uses in the plant here in Houston?

A. I could.

Q. For example, you could go on with the items of pencils 1397 and typewriter ribbons and things of that kind and detail indefinitely the savings that would result to the Southwestern Company?

A. I could.

Q. For the Southwestern Company at one time was paying anywhere from 80 cents to \$2.24 a pound for rubber bands and through the Western Electric Company pays 60 cents a pound, as the Western Electric Company saving?

A. It has made a very substantial saving of all costs.

Q. It has saved them right here in Houston?

A. Yes, sir.

Q. And that is true of every item that has gone into the cost of rendering services?

A. It has all along the line.

Q. Everything that is produced here in Houston by the company. that is true?

A. Yes, sir.

(By Mr. Howard:)

Q. Did I understand you to say that half of the business that it did was with the independent companies?

A. Not independent telephone companies, but companies not con-

nected with the Bell System.

Q. Let's find out what you mean by that, other companies, you mean that half of the business of the Western Electric Company is done with telephone companies over which the American Telephone & Telegraph Company have no control?

Mr. D. A. Frank: Answer the question. 1398

A. I will have to modify that statement, I think. I will read my authority for the statement that I gave. This is the Annual Report for 1919 of the American Telephone & Telegraph Company and the exact phrasing is this: The sales of the Western Electric Company incorporated for the year 1919 aggregated \$135,000,000,00 of which \$70,000,000.00 were to the associated Bell Companies and \$65,000,-000.00 were to other companies. I would like for it to go into the record in that form.

Q. Well, is there any difference, do you mean, every company that is not associated with the Bell Company, an independent company?

A. No, I don't. Q. Then what is the difference, an independent company as you

refer to independent companies?

A. An independent company is a company which hasn't got a license from the American Bell Telephone Company. That is the connection which I have been using.

Q. Then the independent companies and the American-Bell Companies, are they-is that exclusive of any other telephone company,

does that include all the telephone world?

Judge Powell: Let me see, I believe I have an idea, let me ask a question.

1399 (By Judge Powell:)

Q. The Western Electric Company sells other apparatus than telephone apparatus?

A. They do. Q. The Western Electric Company sells Hughes' electric ranges to farmers and other things?

A. Yes, sir.

Q. That is what I judged, they probably mean that the whole business was \$135,000,000.00, and that \$70,000,000.00 was to the associated companies?

A. That's the idea

(By Mr. Howard:)

Q. Now, have you any way of answering what part of the telephone business, manufacture of the telephone equipment the Western Electric Company, what part of that business the American Bell Companies bear to the other?

A. I haven't got those figures.

Judge Powell: There's this statement in the record, I believe there was anyway in recent years, I believe it was '17, the independent companies bought two million dollars worth, and the next year they bought three million dollars worth, with 43% increase. know that shows, so far as the telephone situation was concerned, very little of it is sold to outsiders. That's in the record.

The Witness: Yes, sir.

1400 Q. But practically all of the telephone equipment used by the Southwestern Telephone Company is purchased from the Western Electric Company?

A. That is right.

Q. And the conditions are such that that is almost of necessity true, isn't it?

A. Physically, yes.

Q. Well, that is what I mean, physically, yes.

A. However, it is obvious that if the law of competition, that if there were great profits in that business, the independent companies

would have a much larger share-

Q. (Interrupting.) And aside from being physically true, it is true in this sense that the owner and the powers that control these associated companies and the Southwestern Telephone & Telegraph Company owns also the Western Electric Company?

A. Yes.

Q. That is true? A. Yes.

Q. So aside from the physical conditions, the motive or selfinterest of throwing any profitable business to itself or to one of its companies existed also, doesn't it?

A. The controlling you have there is to get the biggest volume that you can get in order to get the lowest cost and the highest product, the bigger your volume the lower your cost will

1401

(By Mr. Duls:)

Q. Now, Mr. Howard has stated that you are in no way connected with the Western Electric Company. You weren't an officer of that company and haven't any connection with it, therefore you are able to judge without any prejudice as to the value of Western Electric Company equipment; how does Western Electric Company equipment rank with equipment manufactured by independent manufacturing concerns, in your judgment?

A. I have always felt and understood that it stood substantially higher. It is obvious that it would, because the requirements that are placed upon the Western Electric Company apparatus are higher than the requirements placed upon independent apparatus. Our service has got to be from coast to coast, universal, whereas the quirement for independent telephone equipment has got to be the

Q. Do you consider that the equipment is the best that could be obtained by the Bell Companies?

A. I think there is no question about that.

Q. Now, counsel for the City interrupted you when you started to say something about the profits that are made in the independent apparatus, were you going to say that if the profits were large the independent people would enlarge their plants and go into the

business more than they are at present? 1402 A. That is what I was going to say.

(By Mr. Howard:)

Q. The conditions are such that the American Telephone & Telegraph Company has practically the control of the telephone business, hasn't it? Three-fourths of it at any rate, and they are gather-

ing in others all the time?

A. I don't understand that the situation, that, the percentage of increase is being enlarged at all by the purchase or absorption of

other companies, growth.

Q. In other words, the field of manufacturing telephone articles and products is largely monopolized by the American Telephone & Telegraph Company's subsidiary, the Western Electric Company, isn't it? Anybody who contemplates going into the manufacture of telephone articles at this time must do se confronted with absolute knowledge of the fact that three-fourths of the telephone business is not open to him?

Judge Powell: Is normally open to another company under ordinary conditions.

Q. (continued). And is not open to him and is bound by selfinterest to another manufacturing company?

A. He would know that his volume, of course, of the competition

was severe.

Q. He would know that it was extraordinarily severe, wouldn't he?

A. He would know that the volume that is going through the Bell manufacturing company, through the Western Electric Company, to be specific, was so great that the cost would be lower

for the same item of production.

Q. And the cost of overheads and everything of that kind, figuring the limited field, he would have to figure on extensive overhead costs on a percentage basis, wouldn't he, that is overheads and the general expenses would undoubtedly be high compared with the field that he could reach?

A. Why, if you mean that the Western Electric Company's overhead charges are low, why I agree with you. That the Western

Electric Company's overhead charges are low?

Q. No, I didn't ask you about that. I said, if a man would go into the manufacturing, now, with a limited field, knowing that his output, the field for his product would be limited, would be as a prudent business man, or that would strike him, that his overhead would be too high compared with the field that he would reach. wouldn't it?

A. Why, if he isn't in such an extensive business, he wouldn't

need to have so much overhead expense.

Q. Well, it is a business that requires considerable overhead ex-

pense under the best circumstances, isn't it?

A. Well, it is perfectly possible to sectionalize the field and produce items of great value along specific lines. You have got 1404 great pay station lines that have been used all over the coun-

Q. Well, not trying to dodge the issue, hasn't it become the condition in this country and still growing more so that there is one gigantic telephone company that also owns and monopolizes the manufacture of the equipment?

A. To the great advantage of both.

Q. Whether it is to the great advantage of both, that is the condition in America today that the one monopolistic concern controls the operation of telephones and that it also controls almost to a monopolization extent the manufactured articles that go into the enterprises?

A. Well. I think that is substantially correct.

(By Mr. D. A. Frank:)

Q. Mr. Cox, how many stations are there connected with the Bell System in the United States according to your diagram?

A. In the neighborhood of 11,750,000.

Q. And of that number, how many of them are Bell Stations?
A. In the neighborhood of 7,725,000.

Q. So that there are about 4.000,000 stations out of nearly 12. 000,000 that are not Bell telephones and still they are connected with the Bell System?

A. That's it.

Q. Then are there any other stations in the United States that are not connected at all with the Bell System?

A. There are entirely independent and unconnected sta-

tions.

Q. About how many stations are there? 1405

A. I don't know off-hand.

Q. Do you know whether there are something like two or three million?

A. I should assume that there are at least three million.

Q. So that practically half of the stations in the United States are not Bell stations?

A. I think that the Bell Company stations are a little more than

Q. Just a little more than half.

Mr. Howard: He said about four-fifths.

A. Four-fifths of the investment.

Mr. Howard: Well, that is what I mean, four-fifths of the investment.

Mr. D. A. Frank: I am talking about stations.

Mr. Howard: Some of those little things that reach out here, maybe one farm to another, you call those stations. We are talking about investments.

Mr. D. A. Frank: When you are getting at the unit of telephone

use in the country.

Mr. Howard: It might be lines or it might be investments, it might be anything you want to call it. We are asking for 1406 investments.

(By Mr. Duls:)

Q. Do you know what it is on the investment basis?

A. Those are pure assumptions. I don't pretend to have the

figures accurate there. I think I made that qualification in the first place.

Q. I want for the record the positive statement from you whether

or not you know what the percentage is?

A I do not

Mr. Duls: Mr. Howard made the statement vesterday it was fourfifths

Mr. Howard: Well, he said it and qualified it and said it was his best judgment.

Q. Now, is it your best judgment, were you talking about this map here or plat showing the number of stations in the country?

A. No. I had in mind investments when I assented tentatively to a four-fifths estimate, but I simply don't know.

Mr. Howard: He said that two or three times.

F. M. Hoag, a witness for plaintiff, testified as follows: 1407

Cross-examination.

Questions by Mr. Howard:

Q. Do you know what part of the telephone business in the United States the Bell interests control?

A. I saw the United States wire report some time ago, and if I remember correctly the Bell interests control some four-fifths of the

telephone business in the United States.

- Q. Overshadows them-a giant in the telephone world, and all the other concerns are pigmies. That is true, isn't it? You understand what I mean?
 - A. I don't like the way it is stated. Q. There is nothing wrong about it.
 - A. They are the biggest telephone people in the world, yes, sir.

Q. Four times as large as all the others put together?

A. Yes, sir, in the United States.

Q. Don't this concern buy all its supplies from the Western Electric Company?

A. I can't answer that.

Q. What is your guess about it? Would you mind guessing on it?

1408

A. I would rather not guess about it.
Q. Isn't it a fact? Don't you understand it to be a fact? You are familiar with their operations, and they buy practically all their equipment from the Western Electric Company?

A. I might explain it a little bit, if I may, in this way: I have stated that the Western Electric Company is the only real big tele-

phone manufacturing plant in the United States-

And it is a fact that it has been built up by Q. (Interrupting.) the Bell system. The Bell system controls the telephone business and the operation of all telephones practically in the United States, and they will buy only from the Western Electric Company, and thereby

all of the competition in the manufacture of switchboards and other telephone equipment is practically stifled?

A. I don't know that. Q. You don't know that?

A. No. sir, but I do know that the working arrangement which the Bell Telephone Company has with the Western Electric Company makes for great economy and makes for great efficiency in the general handling of our business.

Q. Who told you that? You are associated all the time in tele-

phone environments?

A. Yes, sir. Q. Live and sleep and breathe with it? 1409

A. Yes. sir.

Q. And eat your meals always with a telephone man, and occupy the same room with a telephone man, and live in a telephone atmosphere?

A. Yes, sir, that is my chief business.

Q. And they tell you what an efficient thing the Western Electric Company is—that is preached to you all of the time?

A. No, sir, far from it.

- Q. That is where you get that idea, from associating with and living in this telephone environment. All your views are impregnated-
 - Mr. D. A. Frank: It seems to me like that is an argument.

A. No, sir, this is where I get it: It is my best judgment, after

many years' experience-

- Q. The fact is, there are two great concerns. One is the Bell, one branch of the business, and it turns around to the Western Electric Co., its associated company, and savs "Here, we will see that you manufacture all the equipment and you sell it to us, and we will set it up as worth so much-
- Mr. D. A. Frank: I would like to have you sworn, if you 1410 are going to testify.
- A. I think any arrangement which exists between the Bell Telephone Company and the Western Electric Company,-and this is my own judgment, not what somebody else has told me-makes for greater efficiency and economy in the general handling of the telephone business. Q. Why?

A. In that I have had opportunities many, many times, to compare the jobs which we do, and which the Western Electric Company does, with jobs done by other suppliers, in connection with other telephone companies. I have had that opportunity many, many times.

Q. But there is really no other telephone company that amounts

to anything in the United States, aside from the Bell.

A. Yes, sir, there are some pretty sizeable telephone companies in the State of Texas.

Q. Some of those you bought out the other day?

A. No, sir. The Texas Telephone Company at Waco; that is a good, big concern. The Gulf States is a big concern.

Q. The fact is, you can't buy this stuff at any other place than the Western Electric Company?

A. Not to advantage, no, sir.

Q. And you don't know whether they are associated companies. or not?

A. I don't know what?

C. A. GATES, a witness for plaintiff, testified as follows:

Cross-examination.

Questions by Mr. Howard:

Q. You are Vice-President of this Company and its General Manager,-what relationship is there between this company and the Western Electric Company

A. In what way, Mr. Howard?

Q. Well, in any way?

A. Why, we have a working arrangement with them whereby we buy our material from them under certain conditions, at a certain price, which is materially less than we could buy it in open market.

Q. You have a contract whereby you buy all of your material from

them that they can furnish?

A. Not necessarily all of it, we are not confined to their market. Q. You have a contract whereby you buy all of your material from them that they can furhish?

A. Not necessarily all of it, we are not confined to their market. Q. Well, in regard to the ownership of the two companies, who-

can you tell me anything about that?

A. I know that the American Telephone and Telegraph 1412 Company own some of the stock of the Western Electric Com-

Q. It owns the majority of the stock—the controlling interest,

doesn't it?

A. I understand they do, I don't know that to be a fact.

Q. That is your understanding? A. That is my understanding; but I don't know that.

Q. And it owns practically all the stock in the Southwestern Telegraph and Telephone Company?

A. Yes, they own the majority of the stock in the Southwestern Telegraph and Telephone Company.

Q. That is all.

Redirect examination.

Questions by Mr. J. D. Frank:

Q. What is the next item of material on Page 1 under summary of appraisal? A. Central Office Equipment.

Q. How much have you included there as the cost of reproducing that part of the property?

A. \$1,242,514.00.

Q. How did you go about appraising that particular part of the property, Mr. Gates?

A. I asked the Western Electric Company, who manufactured that apparatus, to make me a price on re-producing that property. Q. Did they have a list of the property-that is, with 1413

reference to the quantity of the property?

A. An inventory was sent them and they made their estimate on that statement.

Q. Did you ask any other manufacturing company to make an estimate on what it would cost to reproduce that part of the plant?

A. I did not.

Q. Why didn't you?

- A. Because there is no other company that I know of that manufactures the same class or character of equipment, or that could replace that equipment.
 - Mr. J. D. Frank: I believe that is all, on that item, Mr. Howard.

Recross-examination.

Questions by Mr. Howard:

Q. You say you got these figures from the Western Electric Company, too?

A. Yes, sir. On page 81 is a copy of their proposition. Q. They have a monopoly in the manufacture of this kind of equipment, I understand you to say?

A. They are the only people who manufacture that particular

equipment.

1414 Q. Did you ever-you made a very nice analysis of the directory this morning-did you ever analyze the labor cost of the Central Office equipment?

- A. Yes, but not recently.

 Q. Not recently? You do not know what part or what proportion the labor of that manufacture bears to the selling part? A. No, I didn't. You mean the cost of manufacture?
- Q. Yes, the cost of the manufacture bears to the selling cost of the product?

A. No, I didn't; but it perhaps runs from 60 to 70.

You are guessing at that, Mr. Gates?

A. I am using these figures I have in my mind in days gone by. That is not positive, absolutely certain.

Q. They have increased considerably in later years, the prices of equipment?

A. Yes, sir, they have increased considerably in later years.

Q. That is all.

1415 Mr. Howard: Now, I put these gentlemen upon notice that this t-ing is going to come up and it should come up, that the

Western Electric Company that they own and use here as an instrumentality to absorb profits from this community should come into this court and make a clean showing of what it cost them to deliver this equipment to these people here who are paying this return, and until they do that, they are not in a court of equity entitled to have this extraordinary relief which they are asking to have the functioning of a rate-making body suspended. Now, those are things that I contend we must go into and we can't seggregate this exchange entirely from this other business of the Southwestern and just pin them down here and say we are going to give you the privileges of losing from these local tolls, these subscribers pay, and we are going to burden you with all these allocated charges of supervision of toll lines, and we are going to, in consideration of all these expenses that you are put in handling these long distance tolls, which we have not undertaken to set up and seggregate and specify and throw you 25% of Four Hundred Thousand Dollars of tolls that originate here.

1416 We are contending that when you get right down to the real facts of this case and get down to learn what they are making, and what money they are getting, from this exchange here, which the people of this community are instrumental in making and originating for them, that we have got to consider this company as a whole, and that we have got to consider these indirect methods of revenue as well as these direct methods of subscribers' payments. Of course, I know it is the easy way, it is a nice thing to just accept those things and not look behind them, but I don't think that in a court of equity where they are asking for this relief, that they can hold back these indirect charges and these indirect profits and say you can't inquire into them.

1417 Direct examination.

Questions by Mr. Howard:

Q. Mr. Kelsey, I would like for you to take that (Counsel hands witness the Hoag inventory) and see if you can turn to the central office equipment.

A. I have it here.

Q. What is listed there, Mr. Kelsey, under the head of central office equipment?

A. Preston, Capitol, Hadley and Taylor; other equipment and construction work and progress.

Q. How is that, Mr. Kelsey?

A. Other equipment and construction work and progress. Q. Do you find the central office switch board there

A. Well, there is a lot of them; there is Hadley, Taylor-

Q. (Interrupting.)
A. Yes, here it is. Central office, Preston?

Q. Mr. Kelsey, here is also Mr. Hoag's appraisal as applied to I wish you would take up there the items relating, first, to the Preston office equipment, and they call here the central office equipment. First, turning to the inventory, what do you find there?

A. Twenty-three sections of eight panel three position subscribers' switch board, eighty-eight multiple and ten thousand answering jacks; seven sections of seven panel key position trunks-

Q. (Interrupting.) Can you find the appraisal,—the amount

where that is appraised?

A. I don't know. I can probably get it here. Yes, it is Preston, \$752,895.00.

1418 Q. How much? A. \$752,895.00.

Q. What does that cover?

A. Covers the main board and the trunk board and frames and

A. (Interrupting.) He doesn't undertake to price the boards

separately, does he?

A. Well, yes, he has just the "A" and "B" board here, informa-

tion desk, Chief Operator's desk-

Q. (Interrupting.) Can you from that inventory get in your mind the article that he is appraising, and do you know about what it is?

A. Yes. Q. You are familiar with it?

A. Yes.

Q. Take that board in the Preston office, what kind of a board does he say it was?

A. Twenty-three sections, 8,800 subscribers' multiples, 10,000 answering jacks.

Q. How much is that board appraised at?

A. \$752,000.00.

Q. Mr. Kelsey, do you know-have you had any experience in the manufacture of telephone office equipment?

A. I have,

Q. Were you ever engaged in that business?A. Yes.Q. Where?

A. With the Kellogg Switch Board & Supply Company, and they manufactured equipment, much larger boards than these.

Q. Mr. Kelsey, I haven't had any opportunity to go over 1419 these matters with you, and am just trying now to see if you can take up from these inventories and appraisals, the amount put in here that this Company would have to have in order to earn a return and compare them with the manufacturing prices as nearly as you can, that is, approximately; are you able to do that?

Mr. D. A. Frank: I would like to know the revelancy of that,

your Honor.

Mr. Howard: Here is the idea, our contention is that this American Tel. & Tel. Company owns both of these companies, that it is carrying on these two branches and that in tracing the earnings, as to whether the property is being confiscated—the question of whether or not upon the whole enterprise they are being denied a fair return. If they have indirect charges and if they are realizing and taking profits from the manufacturer on office equipment and are placing it in this exchange here and drawing a return upon it, why, it has a direct bearing upon the earnings of the Company; in other words, it would be an indirect earning, and where one concern undertakes to go into this business of manufacturing the equipment for an exchange, all that it would be entitled to is a fair and legitimate return upon its investment so invested in the manufacturing branch, and they can not conduct the manufacturing branch and put in this property at huge profits.

Mr. D. A. Frank: Mr. Kelsey has not examined the switch board and wouldn't pass an opinion, or as an honest man sit here and make

an estimate,—as a careful, predent man, I will leav- out the word honest—Mr. Kelsey wouldn't undertake nor would any-1490 body else, undertake to sit here and answer a question as to what a switch board would cost that he had never seen, and it looks to me like purely a waste of time, and besides, the testimony is entirely irrelevant. Go ahead, and if Mr. Kelsey knows anything

Q. All right, Mr. Kelsey. Will you read back the question?

(The question last above asked the witness was read by the reporter.)

A. Approximately, yes.

let him tell it.

Q. Mr. Kelsey, are you reasonably familiar with the cost of manufacturing at the present time of a switch board on practically the same specifications as the switch board now in use in the Preston office exchange?

A. Well, you see this specification here is not submitted to any competition at all; it is put in and priced at the regular price.

Q. But are you or not able, from your knowledge of the material and the labor and the cost of manufacturing switch boards of this size and for this purpose, serving this purpose, to approximate what a board of that kind should reasonably cost to manufacture?

A. Yes, sir; \$752,000.00 is a very high price. That "A" board,

under ordinary conditions, shouldn't run over \$40.00 a line.

Q. Shouldn't run over \$40.00 a what?

A. A line,—8,800 lines.

Q. Well, that don't indicate to me anything,-\$40.00 a line.

A. Well, for a board of 8,800 lines at \$40.00 a line would be very near \$360,000.00. Q. \$360,000.00?

A. Yes, sir.

Q. Are you speaking about the selling price or manufacturing price?

A. That's what I say, the manufacturing price.

Q. You are speaking of the manufacturing price then, around **\$**360,000.00-

A. (Interrupting.) That's what it would cost some company to buy their board.

Q. In other words, that is the retail price or purchase price?

Now, here is a trunk board here that has got to A. Yes, sir. come into this.

Q. How is that?

A. You use a trunk board in addition to that, and that will have to be priced in addition to that.

Q. Is that, or not, included in the \$752,000.00?

A. No. but \$450,000.00 in competition would equip this plant here.

Q. \$450,000.00?
A. This main office, that is, would equip the Preston office under competitive conditions.

Q. You mean present day prices at the present time?
A. Yes.

The Master: You mean to say now that on this Hoag inventory, that he puts the present value of this stuff in at \$752,000.00, and that he can buy it in the open market for \$450,000.00.

A. Yes, he could, Judge, and for less. They have, of course, a great many things in here that would be special with an independent

manufacturer, but I believe any independent manufacturer 1422 in this country would be glas to take the Preston order, as it stands, for \$450,000.00.

Mr. D. A. Frank: Have you ever seen it?

A. Oh, there are many boards like it. No. I haven't seen it.

(By Mr. Howard:)

Q. Does that embrace all the Preston office equipment?

A. The frame work and everything, yes. There was a time when we used to figure a switch board of this kind around \$30.00 a line.

Q. Now, selling it at this price that you suggest,—you say \$450,-000.00 as distinguished from,-how much set up there?

A. \$752,000.00.

Q. That would include to the manufacturer, as I understand you, a good and reasonable profit?

A. A profit of 20%; it is supposed that most manufacturers make

20% profit,—the Kellogg Company did.

Q. Would the price you have named, of \$450,000.00, include a

reasonable profit of 20% to the manufacturer?

A. It would. There is nothing mysterious about these boards. If this was in competition it would be entirely different, but this board is simply made up and sent down and run through on the basis that the Western Electric Company gets a certain profit. Western Electric Company has always been one of the most profitable businesses in the world, one of the very best ones.

Q. Do you know the reasonable amount of material that goes

into a board of this kind?

I think I ought to know all about it, as I A. Every bit of it. put in a eighteen-thousand line board of the same character 1423 in Cleveland.

Q. And is there any superior merit or benefit in using

this particular Western Electric board that they have talked

about being standardized?

A. This is a three-wire system and it isn't necessarily a superior board. It is a good board. It is as good as human ingenuity can make it, as any man with good engineering and good sense can make it, but they all have the same staple materials, mahogany, German silver and rubber.

Q. You have kept yourself coversant and familiar with the prices

affecting the manufacture of switch boards

Mr. D. A. Frank: Don't lead him always.

A. In appraising property I have had, of course, to keep up with that, and in my capacity as Sales Manager of the Kellogg Switch Board and Supply Company I have had to put over one of these large boards in competition with the Western Electric Company, when they came into the field with a great blare of trumpets and didn't succeed——

Q. (Interrupting.) Now, turn to the next matter of office equipment set up in the inventory, Mr. Kelsey, and what do you find?

A. Capitol, twenty-eight hundred lines.

Q. How much?

A. Capitol—no, there is a Capitol unit in here but it don't seem to follow under this summary. The next one is the Hadley unit,—the Hadley unit is sixty-six hundred—

The Master (interrupting): Before you pass over central office equipment, have you got a set up here in which they show

1424 the total of what is over there?

A. I haven't gone into that at all.

The Master: You haven't taken the specific articles that they list as being there and compared their set up price?

A. Oh, yes, where they detail all of them.

The Master: Have you inspected the inventory of what they have got that they have put this value on?

A. No.

The Master: You haven't compared the prices that they have

put on that in reaching this \$752,000.00?

A. Not in detail, because in general telephone practice you first want to know how many lines a switchboard has. A thousand-line board would be worth \$10.00 a line; a two-thousand line board used to run \$11.50 a line; a three-thousand line board used to run \$13.00 a line, and they would increase a dollar and a half a line per thousand lines in a board; this you could follow almost as a mathematical rule, and we never went into all of these details and worked up the information. We did not go into all of these matters and say so many jacks, so many lamps, and so many of all these different items. Of course, this is all right if I had the time to approach it, but I would only want to know about the number of lines, and then, of course, I know that each line has so many relays and so many jacks, and so many line circuits, and with a eight-thousand line circuit, at \$18.00 per line, you would get a pretty

near correct estimate of the cost the circuits used to run 1425 about \$18.00 a line.

(By Mr. Howard:)

Q. You mean when you get the number of lines and a general idea of the switch board, you decide by the number of lines, that is, a man familiar with the manufacture of a switch board?

 A. Yes.
 Q. He knows from long experience when he gets this imformation without detailing every little item, he knows what the price should be?

A. I figured that in these other boards, in Philadelphia, St. Louis and Cleveland; our Company was one of the most successful finan-

cial companies in the country.

Q. And in order to bid on a board, a contract, for manufacturing

it, do you go over each item and list it?

A. No, that is the most absurd thing in the world. You simply make up your general specifications, so many lines and so many trunk circuits.

Q. And having this information in a general way he can make

a very intelligent bid and approximation?

- A. They have surrounded this with considerable mystery and detail.
- Q. To a man familiar with these things, that's been in the game, the details are not mysterious to any extent, are they?

A. No.

Q. You do not have to take up every little thing and say that they are so many of this and so many of that and then total them up in order to get the reasonable value of the article you are bidding on?

A. No, certainly not, not by any means.

1426 Q. Now, you would know from the number of lines how many jacks you would have to have?

A. Yes.

Q. And you know from experience about the cost of these things, about what they will cost,—what all the equipment will cost,—all the equipment that goes with a board of that magnitude?

A. Yes, this inventory is absolutely absurd.

Q. Would it help you to any appreciable degree to go up there and look at the board and watch the girls operate it?

A. Why, no.
Q. Would that help you any, to go up and look it over?
A. No, what's the use in that. We have put in boards at Bahia, India, and Odessa, Russia, and do all the engineering here at home

Q. Any expert telephone man knows what a board is?

A. We wouldn't hold out jobs very long if we didn't. put in boards in China and all over the world and and never had to look at them; they send us the floor plan, and that's about all we ever have.

Q. Wouldn't that rule hold true in regard to most of the things

set up in the inventory, and any practical man could estimate the

value without detailing all of the different items?

A. Everything that a telephone company uses is a simple, separate, concise, composite and staple thing,—there is nothing mysterious about it.

Q. What did you say you couldn't get, the Capitol? Isn't the

equipment listed?

A. It says Capitol unit here, ten sections of eight panel, three position subscribers switch board, equipped with 8,800 subscribers multiple per section and 4,540 answering jacks; that dosen't ap-

27 pear in the summary at all. That's on page 69. We have Preston, then Preston again. It must mean that is Capitol,—

Preston, then Preston again. It must mean that is Capitol,—that's a misprint. On page 69 you see you refer there—it seems the Capitol unit is included in the Preston exchange. It is included in with the Preston. That's pretty near a five-thousand line board, and that would make about \$600,000.00 for that office as against \$752,000.00.

Q. How about the Hadley?

A. The Hadley is a 6,700 line board, priced at \$230,000.00.

Q. What would that board manufacture for to-day?

A. I think that contract would be gladly taken at, let me see,—\$30.00 a line. That would be about \$2,000,000.00.

Q. How much do they put that in at?

A. \$230,000.00. Q. What other?

A. Taylor, a 3,500 line board. That's in here at \$101,000.00. That board would run about \$87,500.00 against their \$100,942.00.

Q. Now, when you speak of these things, I understand that you are speaking of the manufacturing cost, plus the manufacturer's profit.

A. Yes?

Q. And what an independent company would be glad to do the work for?

A. The same price, yes, sir.

Q. And you say there is at least 20% profit in them at that?

A. Our Company always made 20% profit, and so has the Western Electric Company, or more.

Q. When you speak of profit, what do you mean?

A. A net profit on your gross sales of 20%. It is a poor manufacturing business that don't result in 20% on your gross sales.

Q. Does that bear any relation to the capital invested in

the business?

A. No, it dosen't at all. When we were capitalized at half a million dollars we made 20% on our gross sales; that's the only way we looked at it, we naver had any reference to the capital at that time.

Q. What other equipment, as set up in that inventory, is furnished

by the Western Electric Company?

A. They have them all in there, I imagine. The central office equipment, that's in there, and current things, subject to all of these contingencies and omissions, engineering expense, general expense,

taxes during construction. When that is built, contracted to be put in here and installed, I don't think that it is subject to the same treatment that the rest of the plant is; that apparatus is put in under a contract-fixed prices and-

But all of these charges, for instance, Pres-Q. (Interrupting.)

ton central office, they are all included in the \$750,000.00?

A. They have got other charges in there; 3%, contingencies and omissions, enginereing expense-

Q. (Interrupting.) Over and above the \$750,000.00?

A. Yes. Q. How much will that amount to?

A. Well, that is the total of all of them, but then this board-contingencies and omissions, \$139,667.00; engineering expense, \$191, You can easily conceive the 000.00; general expense, \$99,741.00. engineering expense in your distributing system because it is built by the people here.

Q. But all that is included in the total of \$752,000.00?

A. No, they are all added to that.

1429 Q. As I understand you, then, in this comparison which you have just made, where you say the Preston, which includes also the Capitol, would amount to around \$600,000.00?

A. Yes.

Q. By that you mean that by an independent company it would reasonably cost to manufacture, plus the manufacture's profit, \$600, 000.00 as compared to \$752,000.00?

A. Yes.

Q. And that the Company has added to that a lot of engineering and contingency charges?

A. Yes, they added that in addition when that is a contract propo-

sition.

Q. Now, your figure of \$600,000.00, that's a contract proposition, and that includes contingencies and omissions and engineering?

A. To install that board, set up in active operation, fully tested out and up to specifications. You can't subject all these switch boards and instruments to the same thing that you do all other construc-

Q. After they add that to the \$752,000.00, what figure do they

get on the central office equipment?

A. They add 3%, that's about \$22,500.00; 4%, which is \$30, 000.00, and 3%. In other words, they add 50% before they get done with it,-add 50% to that switch board price.

Q. Which would make a total of about how much on that?

A. Well, that would run that up to almost a million dollars alone. Q. As distinguished from \$600,000.00?

A. Yes, sir.

Q. As the reasonable cost of installing it?

A. Yes.

1430 Q. Now, Mr. Kelsey, just touch briefly on overheads, omissions, and contingencies and that sort of thing. Manufacturers of telephone equipment, where there is competition, will install that under a guarantee, put it up and test it out and eliminate any necessity for contingencies, omissions and supervision?

A. Always have done that.

Q. And the prices you spoke of a while ago include all of these things?

A. Everything. Q. That same thing runs through all the other exchanges, does it

not, and about the same percentage?

A. Yes, it does. Another thing in connection with these switch boards, the Wester- Electric Company know just what will be required next year, and the boards that will be required next year are scheduled this year, while those in open competition never knew where the next board was coming from. The Western Electric Company has that advantage and they can schedule them for the next five years if they want to.

Q. It is a fact that the American Telephone & Telegraph Company controls four-fifths of the wires in the United States, and lets out and purchases all equipment from the Western Electric Company. thereby narrowing the field to independent manufacturers? that tend in any way to make the manufacturing cost by inde-

pendent people more expensive?

A. Yes, it does. They have the market constantly restricted and

kept down by the Bell Company.

Q. They have to maintain the same overheads in order to draw trade and revenue from a very restricted field?

A. We had to extend the field and go out and find a new When people who are in competition have to work for a living and lose business that way, they have to go to other fields to look for it, and all independent manufacturers had this problem before them, and instead of growing, they have been mighty lucky to keep even.

Q. And that tends to finally eliminate the independent companies

altogether?

A. Yes, sir, absolutely.

Q. And, of course, when all competition is eliminated and there is no basis of competition at all as it is making now, at the present time even under advantageous circumstances—are they able to manu-

facture all of the equipment?

A. Oh! yes, I think the Kellogg Switch Board & Supply Company can build anything as well as the Western Electric Company can, not in such large quantities, however, as naturally their business is restricted and they don't have the same floor space and machinery, but they have got just as good quality machinery and can make anything according to specifications.

Q. How about the conduits and wires used by the companies.

Are they furnished by the Western Electric Company?

A. The Western Electric Company furnishes the cable,—they have always got that.

Q. Can you-

A. (Interrupting.) They have distributing system here, \$2,488,660.00.

Q. Are you familiar with that branch of the telephone business the manufacturing of it?

A. I had charge of a good many construction plants and plans

in the past.

Q. At the present time you are not engaged in that?

A. No, we only handle wire. In the last few years there have been no independent plants.

Q. You are engaged at the present time in the manufacture

of central office equipment?

A. Well, no, not in such large sizes. We make some private boards, common battery boards, small boards, but we principally handle parts, hunt parts for people and make a specialty of having something on hand that nobody else has.

Q. Now, the aerial wire, do you find that in the inventory?

A. What is that you ask for?

Q. Aerial wire.

A. What is the question about the wire?

Q. Well, do you find it inventoried?

A. Inventoried, yes.

Q. Well, do you find the appraisal of it, the amount set up? A. Yes, it is over here. He has wire here about \$51,000.00,-no, the total, I think is \$75,572.00.

Q. You know who that wire is manufactured by?

A. Why different people pull wire. The American Steel & Roll Company and I imagine the Western Electric have a wire pulling plant of their own. I have paid no attention to that wire outside of buying all wire from the American Press Company, the Ansonia Press and the Western Electric Company.

Q. Do you know anything about the prices of wire?

A. I haven't paid any attention to wire prices for a while. It is down a little bit.

Q. You are not familiar with the prices of conduit? A. Yes, conduit.

Q. Who manufacturers underground conduit?

1433 A. Why, we used to get a great deal of duct from Brazil, I have forgotten the name of the manufacturer Indiana. who furnished it, and the American Tile & Duct Company. They were one of our advertisers too, but I have forgotten the name, but they have duct here, two duct trench, \$1.46 a foot in place. It used to be that way—they put in the entire duct system in Buffalo in 1900 at 18 cents a foot, and in 1906 our total cost per duct foot was about 26 cents, and now, here you have two duct trench here, \$1.46 a foot. That would be about 72 and that is quite an increase for one duct it would be 71.

Q. As compared with-

A. (Interrupting.) As against the old price of putting it in. Q. Are you familiar with the prices in later years?

A. No, but, of course, they have gotten higher in the last few At the time the inventory of the plant was taken in 1914 there had been no change in the prices; they have only been changed since that time.

Q. But what part of the property that goes into the equipment, that goes into a telephone plant is manufactured by the Western Electric Company is distinguished from that which it gets as a Johher?

A. Oh! furniture, fixtures, washing machines,—they supply

everything under the sun.

Q. What part of the telephone property and material, that is used in a telephone exchange is manufactured directly by the Western Electric Company?

A. All switch boards, telephones and cables.

Q. Can you tell anything about the relative proportion in value that the articles manufactured by the Western Electric Com-

1434 pany bear to the entire property of an exchange?

A. Well, easily one-half. The way they have switch board prices in here now it would run much more than half,-at least half and all of it would be purchased from the Western Electric Company. They are the greatest warehouse in the world and ought to be able, with their equipment, to build the cheapest plant in the world; they ought to come into a plane like this and build a plant quicker than any company in the world.

Q. Do they do it?

A. They haven't done it. They have given us the benefit of the highest prices-I tell you that the Western Electric Company is the most powerful institution of the kind in the world and they ought to undersell everybody.

Q. But from comparisons you made on central office equipment and added charges there, as reduced to percentages, it is about an

80% increase over the reasonable value?

Mr. D. A. Frank: Why not ask him what per cent?

A. They have added about,-let's see,-we are around four million, the city, and this appraisal shows six million and a half; that would be about 40% more, wouldn't it,-yes.

(By Mr. Howard:)

- Q. Would that include their supervision? A. They have everything in here. They have cost of establishing business, working capital, interest during construction, every possible item is in here. The original plant itself shows about four and a half million, and by the time they get done loading it they have six million.
- Q I am talking about central office equipment. You stated you put that in for \$600,000.00? 1435
 - A. Well, they would add about 20%.Q. And then a lot of added overcharge? A. Well, added charges; it's in there in big type.
- Q. And you stated a while ago that it would run up over a million dollars?

A. Yes, its added 50% indirect to the direct.

Q. I want you to make the calculation for Mr. Frank. You stated

awhile ago, I believe, that the central office equipment was reasonable worth to manufacture, plus the manufacturer's profit, \$6,000,000.00?

A. \$600,000.00.

Q. But as set up here in the inventory, after adding all these loading charges, it runs up over a million dollars, and I want to know this for Mr. Frank's benefit, what increase \$1,000,000.00 is over \$600,000.00 in percentage?

A. About 48%.

Q. Well, it is more than that on these figures. Just figure it out what per cent 600,000 is—what increase 1,000,000 is over 600,000.

A. It runs over to \$1,027,000.00.

Q. Well, what increase would that be over \$600,000.00 in percent?

A. Well, of course, it practically doubles it.

Q. Now, that would hold practically the same per cent upon all the material manufactured by the Western Electric Company and sold to the operating exchanges.

A. It would. There is no check or no restraint,—they make the

prices; there are no salesman required and no competition.

Q. They buy from one company,—one company owns both companies?

A. There is no limit to the extravagance and they may wreck it; they have no limit and no restraining hand to hold

them and they spare no expense.

Q. Do you know anything about the earnings of the Western

Electric Company, Mr. Kelsey?

A. It has been one of the most profitable concerns in the whole

world.

Q. Do you know of any substantial amounts in the gross value of the stock?

A. I don't think that any company in the world has paid the stock dividends and has the amount of earnings. I know of a stockholder, the Kellogg family,—they sold comething like \$800,000.00 worth of stock which originally cost Mr Kellogg, the father, in the '70's—the family got \$200.00 for every dollar that he put into the Western Electric.

Q. And they made it out of the profits of manufacture?

A. Oh! absolutely telephone manufacture.

Mr. D. A. Frank: A \$4,000.00 investment brought \$800,000.00? A. Yes, sir.

(By Mr. Howard:)

Q. In what time?

A. Oh! in the '70's, and it was in 1912 when the family finally made the trade. The Western Electric Company was organized before the fire, and during the fire Mr. Kellogg moved the books himself to the new establishment; that was in '76, I think. He had this \$4,000.00 and put it up as a loan to the Company on the condition

that he keep his job as bookkeeper at \$12.00 a week. Oh! 1437 this is some of the history of the concern which is very in-

teresting.

Q. And it is still earning enormous profits?

A. Well, it has accumulated enormous profits and they have a policy of charging everything up to the poor stock investor to help get his little 8% and it doesn't matter what the earnings are; in other words. I think it is one of the coldest blooded propositions that we have had in history.

J. C. Kelsey, a witness for the defendant, testified as fol-1438 lows:

Cross-examination.

Questions by Mr. D. A. Frank:

Q. Would it surprise you to know, Mr. Kelsey, that in the City of Houston, they are handling an average of over a thousand?

A. They are not.

Q. Are you swearing now, or just guessing?

A. I am swearing, because from the records I have seen there, you run about five hundred calls.

Q. Your idea is, that a plant that looses money for twenty-five years is worth more than one that has made money?

A. Under the law it is, yes; because one can capitalize its deficit and get a higher rate really than a successful company can.

Q. Now, I want to call you- attention, Mr. Kelsey, to the fact that you are swearing.

A. I understand I am under oath, absolutely under oath, and I have every respect for this Court. I am telling exactly what is what.

Q. That there's more toll operators than there are local operators. A. That can be proved.

1439

Q. But are you swearing now? You testify under oath?

- A. Yes, I am glad you mentioned all of that, because I overlooked
- Q. You are testifying under oath that there are more toll operators and more expense than local?

A. You have got a tremendous traffic load in this town.

Q. You don't know? Why was it?

A. Because I know it.

Q. You realize that you are under oath, don't you, Mr. Kelsey?
A. You bet! I have realized that from the time I hit this town.

Q. You swore this morning positively that we had more toll operators than exchange operators?

A. No, I gave it as my opinion that it cost you more to operate

your toll lines than your local exchange.

Q. I ask you, on your oath, on this stand, whether you would have cut out this 4½% if you could have arrived at your 7.7% any other way?

A. I didn't have anything to do with it. I never figured ahead

in my life, and never will.

Q. The testimony in the case shows that the $4\frac{1}{2}\%$ agreement was entered into at a time when the Southwestern Company was entirely independent of the American Telephone & Telegraph Company.

1440

A. I think that is the silliest arrangement. I can't imagine an institution that ought to be as intelligent as the American Tel. & Tel. Company which will continue to proceed with the $4\frac{1}{2}$ % clause,—it causes more trouble and more expense fighting for the fool thing,—you have got orders to fight for the $4\frac{1}{2}$ % more than anything else, and everything else is to be thrown overboard, but sustain the $4\frac{1}{2}$ %.

Q. Who gave me the orders?

A. I don't know.

Q. You are swearing-

A. (Interrupting.) Yes, I am swearing, and I am perfectly satisfied and tell this Court, whole-hearted, that your principal duty in this case is to sustain the $4\frac{1}{2}\%$.

Q. Well, from whom did I get the orders?

A. I don't know.

Q. What makes you think I have such orders as that, Mr. Kelsey?

A. Because that is considered of more importance than some of

Q. (Interrupting.) Suppose I told you there wasn't a word of truth in it?

A. In other words, I am a liar?

Q. Call yourself what you please, but there isn't a word of truth in what you said. I am under no orders.

A. Well, may be-

Mr. Howard: Are you testifying, Mr. Frank? As long as you have raised that issue, I would like to have you take the stand and let me question you about it.

Q. There was no reconstruction figure and I told you.

A. No sir, you said that year was unusually good, but the year before you did quite a lot more. If you will show this Court, if you are fair enough and frank enough to show your absolute record of reconstruction since 1898, I will abide by anything you find.

Q. Why 1898?

A. Because you start in with the common battery system and commence to put on the airs you have today.

Q. Can't you be honest enough-

A. (Interrupting.) I want you to be honest enough to give this Court the record since 1898.

Q. We are working on 1919.

A. I am working from 1898 up to now.

Q. You have used a figure that I told you was wrong.

1441 · A. I asked you for all the figures and you seem to be afraid to show what happened in the last twenty years,—your experience here.

Q. Mr. Kelsey, what difference does it make what we spent twenty

vears ago?

A. I want to know what your maintenance was, how big you were, and then you have something to tell the Court. You can't tell the Court you spent all your reconstruction in three years. That has to be amortized and covered over a period of years.

Q. How much City taxes did we pay the City of Houston on the toll investment of \$808,000.00?

A. I don't suppose you paid any.

Q. You say it is in there, I wanted to know how much is in there? A. Because it is bound to be in there. You have got one sixth of

your property. I am talking about the load that your company carried in this town. This maintenance load is something that you charged here-

Q. (Interrupting.) Do you realize that you are under oath and

that you are swearing?

A. Yes, you bet. You have never let me forget that for a minute.

You have kept me out of trouble all during this case.

Q. And still you say that no taxes ought to be allowed on the \$808,000,00?

A. It is allowed and it is in there, Mr. Frank.

Q. Are you on our pay roll?

A. Mr. Frank, sometimes you wander off in fields afar and I can

not follow you.

Q. Where did Allison ever testify for us except in the Houston case?

A. My goodness alive!-

Q. You are under oath. 1442

A. I can show you that Allison and Sloan, and half a dozen of those engineers have been given business by your concern all the time. Their leanings are with you, and I would like to have them here to tell them.

Q. Where did he ever testify except at Houston? A. I don't know.

Q. You said he was always for us? A. That is tradition. We know that.

Q. Are you swearing to tradition in this Court?

A. We know we wouldn't select Allison if we were in a municipal

Q. When did he ever say that?

A. I have talked to him. He is a very estimable gentleman, but he is all Bell.

Q. He is not the kind of man you could get to get on a side and testify at so much a day on that side?

A. What side are you talking about? Are you intimating that I am testifying-

Q. (Interrupting.) I am not intimating anything at all, I am

not that kind of a man.

A. For six days I have heard a lot that you have said, and I want to know-

The Master: He is referring to Mr. Allison.

A. Sometimes he is so much higher intellectually than I am that I have to grope for an answer.

1443

Revenues and Expenses.

A. E. Scott, resumed the stand and further testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Q. Mr. Scott, yesterday afternoon I believe we had just introduced as Exhibit No. 44, a statement of the revenues and expenses for the month ended December 31, 1919, hadn't we?

A. Yes, sir.

Q. Now, without going into details on that, what does that show

the results to be?

A. It shows that the balance of net income before making any allowance for depreciation for these four months—these are the months when the lower rates were in effect again—that we lost \$16,601.39; that is before taking into account any question or valuation or any question of depreciation.

Q. That is, your operating expenses were actually \$16,601.39 in excess of the revenue which you derived from the operation of the exchange, without setting aside anything as a reserve for depreci-

ation?

A. Yes, sir-that is four months on an annual basis, that

1444 is about \$50,000.00.

Q. Now, have you prepared an estimate of what the net loss would have been for the four months ended December 31st, 1919 if the increased rates which were established for February 1st, 1919 had continued in effect?

A. Yes, sir. (Handing paper to counsel.)

Mr. J. D. Frank: We offer that in evidence as plaintiff's exhibit No. 45.

(Plaintiff's Exhibit No. 45 was received in evidence and is in words and figures as follows:

*\$185,497

PLAINTIFF'S EXHIBIT No. 45.

A. E. Scott, Witness.

The Southwestern Telegraph and Telephone Company.

Houston, Texas.

Estimate of What the Net Loss Would Have Been for Ended Dec. 31, 1919, if the Rates Established on Febr	Four Months ruary 1, 1919,
Had Continued in Effect.	Annual basis.
Total Exchange Service Revenues for seven months ended August 31, 1919	Author Dates
nue for the 4 months ended Dec. 31, 1919, under the increased rates	\$1,000,958 129,008 24,598
Total Revenues	\$1,154,564
Expenses for the four months:	
Maintenance Expenses \$156,174 Traffic Expenses 490,037 Commercial Expenses 87,959 General Expenses 54,072 Rights, Privileges, etc. 39,108 Uncollectibles 14,196 Taxes 134,674 Rent Deductions 3,842	
Total Expenses	\$980,062
Balance Net Income before deducting depreciation	\$174,502 \$359,999
Balance Net Loss based on Exchange Rates in effect during the 7 months ended August 31 1919, and actual Toll and Miscellaneous Revenues and Expenses for the four months ended	+0107.407

Dec. 31, 1919

^{*}Red in copy.

(Mr. J. D. Frank, resuming:)

Q. What does this exhibit show with reference to what the result would have been for the month ended December 31st, 1919, if the increased rates had been permitted to remain in effect?

A. We would have lost \$185,497.00.

Q. Now, have you made due allowance for the fact that during those four months that the decreased rates were in effect you gained

certain subscribers?

A. Yes, sir, I have taken that in consideration in this calculation; the way I have done that was to go to the seven months during which we had the higher rates in effect and find out what the average revenue per station was on the number of stations we had during those seven months; then I found out what the average number of stations were during the four months, and applied this higher rate which was in effect during the seven months to the average stations during the four months to obtain my exchange revenue.

Q. Now, have you prepared an exhibit containing a summary of

the property and net loss on the annual business?

1447 A. Yes, sir, I have.

Q. Give me copies of that?

A. Yes, sir. (The witness handed papers to counsel.)

Mr. J. D. Frank: We desire to offer that in evidence as plaintiff's Exhibit No. 46.

(The paper was thereupon received in evidence, marked "Plaintiff's Exhibit No. 46, Witness Scott," and is filed herewith.)

(Continued on next page.)

1448

PLAINTIFF'S EXHIBIT No. 46.

A. E. Scott, Witness.

The Southwestern Telegraph and Telephone Company.

Houston, Texas, Exchange.

Summary of Property and Net Loss, Annual Basis.

	7 months ended Aug. 31, 1919.	4 months ended Dec. 31, 1919.
Reproduction Cost New Less depreciation of Physical Property Cost of Establishing Business Working Capital	5,280,642 992,881 238,818	5,280,642 992,881 238,818
Total Property	6,512,341	6,512,341
Balance Net Loss Per cent Balance Net Loss	76,613* 1.18%*	409,803* 6.29%*

^{*}In red in copy.

Balance Net Loss	409,903*
ended August 31, 1919 had continued in effect during four months ended Dec. 31, 1919	224,306
Balance Net Loss Per cent Balance Net Loss	185,497* 2.85%*

1449 Q. Now, Mr. Scott, just explain that to us in a few words? A. I have taken Mr. Hoag's reproduction cost new, less depreciation of the physical property as my basis for determining the rate of return. His reproduction cost new less depreciation is \$5,-280.642.00.

Q. Well, the total property?

- A. The total property is \$6,512,341.00. The balance net loss on an annual basis for the seven months during which we had the higher rate was \$76,613.00; the per cent balance net loss, seven months, was 1.18%.
 - Q. Well, now, that is on the basis of the increased rates? A. High rates, yes, sir.

Q. You have worked it out for a year, and that is the result for a year on the basis of those increased rates, using Mr. Hoag's total property figure there of \$6,512,341.00?

A. Yes, sir.

- Q. Now, what is the other computation which you have made there, Mr. Scott?
- A. I have taken the result for the four months after the rates were reduced and figured it out in the same manner.

Q. That is, you used Mr. Hoag's figure there?

A. Yes, sir. Q. And that shows net loss of \$409,803.00 does it?

A. Yes, sir,

Q. That is on an annual basis?
A. Yes, sir; and the per cent balance net loss is 6.29%. 1450 Now, I have made a further computation on this exhibit following the line of my previous exhibit, showing what the per cent net loss would have been if we had had the higher rates in effect during those four months, and that shows that the per cent balance net loss at the higher rates, would have been 2.85% balance net loss.

(Questions by Mr. D. H. Frank:)

Q. Mr. Scott, referring to the last column there, you have the statement there, "Additional Revenue if rates in effect during seven months ended August 31, 1919, had continued in effect during four months ended December 31, 1919, \$224,306.00." What do you mean by that?

A. That is the gross amount of additional revenue which we would have obtained during those months, with the higher rates, that is

on annual basis.

^{*}Red in copy.

Q. That is on annual basis?

A. Yes, sir.
Q. That is on the annual basis-

Q. That is on the annual basis with increased rates, would have produced-

A. That much more money.

Q. —\$224,306.00?

A. That much more money.

Q. That much more money than was produced on annual produced on annual December 31st, 1919? 1451 basis during four months ended December 31st, 1919?

A. Yes, sir, that is right.

Q. Now, just why does the per cent balance net loss amount to 2.85 per cent under those conditions and up there under the seven months, when you had the rates in effect, the balance net loss was · only 1.18?

A. Expenses have been going up very rapidly, and during these four months, as shown by exhibit No. 42, the increase in—increase on an annual basis was about \$170,000.00, and that is reflected in this balance net loss for those four months by \$185,000.00, whereas during the seven months it was only \$76,000.00.

Q. So that during the four months time in the latter part of the year 1919, not only did your revenues go down because of the action

of the city, but all your expenses went up at the same time? . A. Yes, sir; the traffic department expense alone increased \$100,-000.00.

· · Q: Well, did you give away a lot of money in the traffic department during that time?

A. I don't think we gave away any money. We had to increase the salaries of our operators in order to keep them, and get them.

Q. Well, why did you increase the salaries of the operators? A. In order to get operators and to keep them satisfied if 1452 we could.

Q. Did you give the operators more money in order to make a

better showing in this case?

A. If we had not given them more money we very probably would not have been able to give them very much telephone service in · Houston.

Q. I believe that is all.

Cross-examination.

Questions by Mr. Howard:

Q. This last item, where you show net loss for \$409,803.00—that is, 6.29%—that would indicate that your operating expenses, or that loss, is about equivalent to what you claim for depreciation, · the per cent is about the same, 6.29 and you claim I believe sixaround six?

A. That indicates that we did not have enough return to lay

aside any depreciation.

Q. Yes, just about paid it?

A. We would have broken even without laying aside anything for depreciation.

Mr. D. H. Frank: Or anything for dividends.

A. Dividends or interest or returns of any kind.

1453 Q. You figure dividends on a valuation of about \$5,280,-000.00?

A. Yes. The depreciation is figured on physical property. Of course this per cent depreciation is on the total property.

Mr. D. H. Frank: There is no depreciation figure there.

Q. Of course, it follows if you have used too high a value in setting up the figures upon which you base your depreciation, that it will show corresponding smaller net loss?

A. Well, the facts are that we lost money, that our actual operating expenses exceeded the revenues and constructing and main-

tenance items.

Q. Of course. I asked you, it follows, if you used higher figures for depreciation, that loss would be correspondingly reduced.

A. Yes, sir.

1454 A. E. Scott, a witness for plaintiff, testified as follows:

Direct examination:

Q. Now, Mr. Scott, have you prepared an exhibit showing a detailed statement of the revenues and expenses for the seven months' period of 1919, during which the increased rates were in effect?

A. Yes, sir. (Handing counsel a paper).

Mr. J. D. Frank: We desire to offer that in evidence as plaintiff's Exhibit No. 43.

(See page 1387.)

1455 Q. This exhibit consists of three pages I believe?

A. Yes, sir. This is a detail of the figures from which I derived the next to the last column in my exhibit No. 42.

Q. Now, Mr. Scott, I want you to take this exhibit up in detail and tell us what the revenues were derived from and what the various items of expense were, so that we can thoroughly understand it?

A. Now, before I start, I want to call particular attention to the fact that all the figures which are in this exhibit are for seven months, they are not on annual basis—the exhibit 42 is on annual basis, but these figures are actual results for seven months, these are actual figures right from our records. The first item we have is Exchange Service Revenues. The first column the account number is the account number prescribed by the Interstate Commerce Commission.

Q. Yes, sir, so these numbers 501 and so on down there, are numbers prescribed by the Interstate Commerce Commission?

A. Yes, sir. Account 500 Subscribers' Station Revenues, including the revenues derived from all the stations within the city limits

of Houston, or within Houston for exchange service; that includes the P. B. X revenues, as well as business and residence.

Q. By "P. B. X" you mean Private Branch Exchange?

A. Yes, sir, that is only the exchange number, you know, of course, no poles in this private account. The total of that is \$552,507.26. Account 501 is Public Pay Station Revenues—that is, revenues derived from public pay stations, except the toll revenues—and amount to \$3,244.45; that is local messenger at pay stations. Account 503 is Service Station Revenues, amount to \$253.78.

Q. What are those services?

A. Service stations as stations where the subscriber owns part or all equipment, or part or all of the line—don't own all either, but owns some part of the equipment or a very small item, and used in connection with farms. Account 504 is Private Exchange Lines, amount to \$375.00 Private Exchange Lines are lines which receive no exchange service, they are lines between two plants of one concern—you have an example of one concern that has an office here in town and also has a plant down at the basin, and they have a private exchange line between those two offices, they get no exchange service through there, but we furnish the line and furnish the equipment. This revenue is derived through that.

Q. That is, some line owned by you, not connected with the local

exchange?

. A. Yes, sir, that is right.

Q. All right.

A. Account 505, Minor Rents of Exchange Plant, covers the revenue derived from renting our plant to others, the plant that
 1457 we rent to others consists of furnishing of space on our pole lines, for the wires of other concerns.

Q. That is, the Western Union, Postal, etc.

A. To the Western Union, the Postal and to the electric light company, and some other cases, and also rent a space in our conduit; that amounts to \$3,507.82. All of these items down to this point represent actual revenues which we have received at Houston. We next have now an Estimated Rental for 22,443 feet of conduit used for Toll Purposes. We use part of our exchange plant for a toll property; we are giving the exchange credit here for the use of that property, but it don't get on to our accounts, and it is worked up specially to get it into this exhibit.

Q. Now, what rental do you allow the local exchange there for

the use of the local property by the toll equipment?

A. We allow eight cents per foot of conduit.

Q. Well, now, how did you determine that rental?

A. That is the regular commercial rate that we are now paying where we are renting property from others, or what they pay us for the use of our property; it is the regular standard.

Q. These other companies, such as the Western Union, the Postal

and so on?

A. Yes, sir, any outside concern that wanted to use our conduits would have to pay at this rate; or if we wanted to use the conduit of any other concern, we would have to pay at this rate, it is the regular standard rate.

Q. Then what is the next item there, Mr. Scott?

A. The next item is an item similar to the other, it is the tollthe plant uses 4.33 circuit miles of our exchange cable, they are charged, or we have given the exchange credit here at the rate of \$2.50 per quarter circuit mile or fraction thereof. standard commercial arrangement.

Q. The same rate that you charge the Western Union and that

the Western Union charges you?

A. Yes, sir.

Q. And other wire companies?

A. That is the rate we would have to pay and that is the rate the toll plant would have to pay if it was independent and rented this property from the exchange.

Q. Then you get as a total for the exchange service revenues of

how much?

A. \$560,962.88.

Q. Now, then, take up the other items of revenue?

A. The next item of revenue we have is Toll Service Revenues. Account 510 includes the commission allowed to the exchange for commission on toll messages originating at Houston; they allow

25% of the total value of the originating call at Houston: the total calls amounted to \$256,336.19, 25% of this is \$64,-1459

Q. That is credited to the local exchange for the handling of that long distance service over local telephones scattered throughout the city?

A. Yes, sir.

Q. Now, Mr. Scott, is that the allowance that is usually made?

A. We have hundreds of contracts with telephone companies where we allow them 25% for originating toll business, we have many other contracts where we allow 121/2% on incoming calls and 121/2% on outgoing calls; it is a fifty fifty proposition whether you take 25% of the outgoing or 121/2% each way.

Q. Well, how would it effect the situation if you would take the 121/2 and 121/2 in Houston instead of taking 25% on outgoing calls?

A. We made a study of the month of September in 1919, and we found that the outgoing business in Houston is considerably larger than the incoming business, there were about 33,000 calls going out of Houston in the month of September and about 26,000 some odd coming in,-so working this on the basis of 25% of the out-

going business we are giving the exchange much the better for it. Q. Now, Mr. Scott, that is the commission which you usually allow other companies and which they allow you for this same ar-

rangement, isn't it?

A. Yes, sir; we have hundreds of contracts on this same basis

1460 Q. I believe there is some other witness to follow you that is to testify on this 25% is there?

A. Yes, sir.

Q. Then what is the next item that you have there?

A. The next item is commission A. T. & T. messages. Instead of taking the 25% on A. T. & T. messages, we have taken a flat amount; that is the amount which the A. T. & T. allows on all messages originating in Houston which pass over the A. T. & T. line or some part.

Q. Well, what is this allowance:
A. The contract with the A. T. & T. provides for an allowance at points other than the pay of 25% on all messages originating at points other than the pay stations, the commission not to exceed 30 cents in any one case; and for messages which originate at pay stations they allow 50% not exceeding 60%. We make a study periodically of the basis of this 25% and 50% arrangement, to determine what the average amount per message is, and after determining it, we use that amount for the next time when a further study is made—which is 30.76 cents, is the actual figure on Houston calls, it amounts to about 25% on a message. This item is \$164.57.

Q. It works out about 25%, the same as the other?
A. There is very little A. T. & T. business out of Houston. Q. Does the A. T. & T. own any lines out of Houston?

A. No, sir, it stops at the line. Your line connects with it at the Texas border?

Q. Your lin A. Yes, sir.

Q. There is only a small part of it here in Houston?

Q. Of course, beyond that, are there interstate calls that go beyond the lines of the State?

A. Yes, sir.

Q. What is this next item, Allowance for Handling Through

1461

A. There are many calls which have to have some handling in Houston which do not originate here, that is what we call a through call, Houston is the switching point; a call coming through-I couldn't tell you what particular points might be involved-but a call coming from Beaumont and going through Houston, is going to Dallas, would be switched here; we have to make allowance through other companies for handling those through calls and that is what this is; that is not involved in this commission item because it is not an original call or an incoming call, it is a call that passes through and that is the only way that the city would get any credit for it—that the exchange would get any credit for it.

Q. All right. Now take up-

A. That gives a total of toll revenue of \$69,923.88. Q. Now, take up the other operating revenues?

A. The next item we have is Miscellaneous Operating .1462 Revenues. Account Number 521, telegraph commissions amount to \$1,294.86,

Q. Well, what is that Mr. Scott?

A. You know you can go to the telephone and call up the Western Union and place a telegram. At the end of the month with your telephone bill you will get a charge for this telegram. Union allows a commission for originating this business and handling it and collecting it, and that is what this amount covers.

Q. How much commission do they allow on that? A. I am not sure about that-I think it is 5%.

Q. That is done primarily for the convenience of the subscribers, isn't it?

A. Yes, sir. It amounts to very little for us. Q. Then what is your next item?

A. The next item is Account 523, Advertising and Directory, \$9,351.27. We have advertising in our directories, we charge for that, of course; we also sell some few directories; any sales of directories is included in this amount. That is what those two items are that are involved there.

Go ahead with some other, Q. All right.

A. Account 524, Rents from other Operating Property, \$231.00, is made up almost entirely from the rent of a building, I 1463 think, on the Hadley property, a small building that is not used for telephone purposes and which we rent out.

Q. That was not included in this appraisal?

A. No; but I have included the revenue in here, and also the expense connected with it, and it is also included in my book cost of other property at Houston.

Q. And then what is this, Other Miscellaneous Revenues?

A. Miscellaneous Revenues are items which cannot be allocated to any other account or items, I couldn't tell you just exactly what that account is; it amounts to only \$295.00.

Q. All right. What is the next item, Mr. Scott?

A. The next item is an estimated item for the use by the division and district offices of space in our Preston building.

Q. Now, those are division offices-perform services for other places than Houston, as well as serving Houston also?

A. Yes, sir.

Q. And you estimate the amount of rentals which should be charged up against the division organization for the use of that local property?

A. Yes, sir, that is what I have done here.

Q. You have included \$1,207.37. How did you get that figure. Mr. Scott?

A. Why, I found the part of the building, the space occupied by these division people; I have allowed a rental rate of \$1.80 a square foot per annum for the space occupied by these division people.

1464 Q. Where did you get that figure of \$1.80?

A. I got that from Mr. Hoag. I understand Mr. Hoag got that by going around to various people in this city and finding out what he could rent space for for similar to office space in that building; I understand that he got rates varying \$1.60 up to \$2.20 and that was an average.

Q. That is per year for each square foot?
A. That is per year for each square foot, yes, sir; I used \$1.80, being the average of the figures he got. In a previous case we used \$1.20, but office space at that time was not as valuable as it is now.

Q. All right. Now, that-

A. That concludes the miscellaneous revenues, and gives a total of \$12,390,38.

Q. All right. Go ahead.

A. Total Telephone Operating Revenues, \$643,277.14.

Q. All right. Now, what is the next item?

A. The next item is Account 527, that is the amount we paid to the American Telephone and Telegraph Company under what is known as the 41/2% arrangement for rights, privileges, and use of property, engineering account and for other services, amounts to \$27,497.80.

Q. Why do you deduct that from your operating revenue at this part of the proceeding, why don't you include that as one of your

items of expense?

A. The Interstate Commerce Commission provides that this 1465 shall be treated as a deduction from gross expense, instead of being included in our expenses, and I followed their set up in making this. Prior to the time we operated under the Interstate Commerce Commission, it used to be treated as expense.

Q. Now, there will be other witnesses that will testify in reference

to that license contract and the amount of money paid?

A. Yes, sir.
Q. What is the balance of your telephone operating revenues after deducting that 41/2 % as paid under the license contract?

A. \$615,779.27.

Now, take up your items of expenses, Mr. Scott?

Q. Now, take up your items of expenses, Mr. Scott?

A. The first item we have is Maintenance Expenses. That made up of Account 601, Supervision of Maintenance, \$10,545.19.

Q. Well, I do not think it will be necessary to take all these items up in detail. What do you get as your total maintenance expense?

A. \$72,296.71 is the total maintenance. From that I deducted \$4,350.72, which was charged to our reserve, our depreciation and reserve; that is in connection with extraordinary repairs and

unusual casualties—we provide in our reserve for unusual storms and when the- occur we do not charge it to our current maintenance, we charge it against our reserve. That leaves total current maintenance \$67,945.99.

Q. All right. Now, take up your Traffic Expense.

The Traffic Expenses are self explanatory. The total is \$226,408.55, the principal items, of course, being operators' wages including account 624, which amounts to \$172,920.54.

Q. Out of that \$226,408.55 for your total Traffic Expenses, your

operators' wages alone amount to how much?

A. \$172,920.54.

Q. You also have other traffic employes, do you not, Mr. Scott?

A. Yes, sir. The total traffic pay roll paid out at Houston amounts to over \$205,000.00 in those seven months.

Q. In other words over \$200,000.00 of these Traffic Expenses go

to the traffic employes in the City of Houston?

A. Yes, sir, actual bona fide cash expenditure at Houston, over \$200,000.00 out of this \$226,408.55.

Q. All right. Now take up your Commercial Expenses?

A. Commercial Expenses amount to \$48,088.67, the principal items being Revenue Accounting and Revenue Collecting, the directory expenses and the local commercial administration. half of that is pay rolls paid directly at Houston. 1467

Q. Now, what is your next item-General Expenses?

General Expenses, yes, sir.

Q. Just in a general way, what does that cover, Mr. Scott?

A. That covers the salary and the expenses of the general officials of the company, and includes in addition insurance amounts paid to employes in connection with our relief department plan, and for expenses in connection with damages, etc. It also includes an amount of \$700.00 paid to the telephone engineer, to the City of Houston.

Q. Now, on that Relief Department and Pensions, in a few words

what is that, Mr. Scott?

A. We have a plan whereby we pay our employes after they have been with us a certain time-

Q. Speak out louder, Mr. Scott, so we can hear you?

A. -certain amounts based on their salary, when they are sick, also pay them accident benefits, we also pay death benefits and pensions. Under the state laws of Texas, we, of course, have to pay accident benefits, but under the plan we operate, we arrange that the employee gets the best of any accident benefit that he would be entitled to,-that is, suppose your compensation law provided a certain amount and our plan provided for another amount, we would give the employe the best deal; if the compensation law required a larger amount, we would pay him that; if our compensation plan provided for a larger amount, we would give him that.

1468 Q. And employees who have been working for the company a certain length of time are paid their salaries for a

certain length of time when they are sick?

A. Yes, sir,

Q. I believe Mr. Pennell is going to testify in reference to that, isn't he?

A. I understand he is going to. I have one copy of the plan

Q. Well, you needn't mind about getting a copy of the plan at this time, we will have Mr. Pennell put that in. Then you get as the total of General Expenses how much, Mr. Scott?

A. \$27,619.53.

Q. Deducting that from your total telephone operating expenses, you have how much?

A. Adding the maintenance, traffic, commercial and general expenses, you get a total of telephone operating expenses of \$370,- 062.74; deducting the total expenses from the total revenues, we get \$245,716.53.

Q. All right. Now take up the other deductions that you have?

A. The first item of deduction from this amount is the uncollectible items.

Q. What is that, Mr. Scott?

A. Why, we, like any other concern, have certain bad
1469 accounts that we are not able to collect all that we bill, and
this is the amount which we have used as the uncollectible
for those seven months; it does not represent the actual uncollectibles

for those seven months.

Q. Well, why didn't you take the actual amount of uncollectibles

for the seven months?

A. When I saw the figures I determined that there must be something unusual happened during the seven months, the amount of it is very large, amounts to practically forty or fifty per cent more than the amount I used here, but rather than use that, I made a study of the actual losses for the six years prior to 1919 and I obtained a per cent of 11/8 as being the per cent of operating revenue which is lost, and I applied that 11/8 per cent to the operating revenue for the period and got this, \$9,312.58.

Mr. Howard: That was largely due to the Burleson undertaking,

wasn't it-being up in the air so long?

A. It may have been in part. It was unusually large.

Mr. J. D. Frank: Business was very mixed up, lots of people didn't pay their bills on account of advice by counsel.

1470 Q. In other words, Mr. Scott, the actual amount of uncollectibles during this seven month period was abnormally large, and you made a study of what the average uncollectibles were, for the last six years and applied that average to this in order to eliminate the unfair conditions?

A. Yes, sir; I thought it was the proper thing to do.
Q. Now, what is this Taxes Assignable to Operations?

A. That is all taxes paid by the company, either to the city of Houston or to Harris County, the State of Texas or to the United States Government, which properly was chargeable to Houston—don't include all the taxes paid at Houston nor all the taxes paid in Harris County, it is simply a proportion chargeable to Houston—I made a study of the various tax payments, and assigned certain amounts to Houston on the basis of these studies.

Q. Well, were those taxes on the property constituting this local

exchange here?

A. Yes, sir,—that is taxes which are assignable to the exchange

property here in Houston.

Q. Well, by "Assignable" you mean the taxes which you actually paid on Houston property, isn't that a fact?

A. Yes, sir.

Q. Your other statement you made there was with reference to—what you meant to say was you had not included any taxes on property other than the Houston exchange?

1471 A. Yes, sir, that is what I was trying to infer. Mr. Howard: Do you include income tax on that?

A. Yes, sir.

Mr. Howard: How did you get any income on the Houston exchange when you were losing money?

Mr. J. D. Frank: Well, we had to pay 11/2% gross income tax, we had to pay it to the City of Houston.

Mr. Howard: I am not talking about that, I am talking about

income tax.

1472

A. The income tax is a general tax, we don't make a return for the City of Houston or San Antonio, we make up a return for all

Mr. Howard (interrupting): Then you charge up to the City

of Houston, income tax?

A. It is part by the City of Houston and comes out of the net earnings, by deducting it here I am taking it out of the net earnings. It doesn't make any particular difference where you deduct it, it will come out at some point, and I have taken it out at this point, after deducting my expenses from my revenues-I am now deducting this tax item simply to come down to the net revenue, we will have to pay the city that.

Mr. Howard: Yes, sir, that is the point I am making,

that is income tax, and not from the amount deducted-A. Well, this is the set up by the Interstate Commerce Commission, where you put your taxes.

Mr. Howard: It is charged as operating expenses.

A. It is not charged as operating expenses, it is treated as a deduction from operating revenues, after paying expenses-it is not part of the operating expenses and is not so treated, it is straight deduction.

Q. All right, go ahead, Mr. Scott?

A. The total taxes is \$69,104.96; the total of uncollectibles and taxes is \$78,417.54. Deducting this from the net telephone operating revenues, we have a balance of operating revenue, of \$167,298.99,

Q. All right. Now, what other deductions have you?

A. Now, from this we must deduct any rent we must pay, which amounts, to a total of \$1,990.73.

Q. Well, just take the first item there and tell us what it is? A. The first item is Rent Deductions for Telephone Offices; we went space over in, I think it is called the Texas building isn't it, or California building.

Q. I don't know where it is, I know that you rented some

outside property.

A. Yes, sir. That is a small item, \$1,990.73. Deducting A. Yes, sir. That is a small item, \$1,990.73. Deducting—Q. What is the balance of your net income before deducting depreciation, Mr. Scott?

A. \$165,308.26.

Q. All right. Complete your papers there?

A. Depreciation for seven months, based on the reproduction cost new, and the rates furnished by the engineer, was \$209,999.93; deducting depreciation, gives a balance net loss for the seven months

of \$44,691.67.

Q. Now, Mr. Scott, have you prepared an exhibit showing a statement of revenues and expenses for the four months ended December 31st, 1919?

A. Yes, sir. (Handing paper to counsel.)

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 44.

The paper was thereupon received in evidence, marked "Plaintiff's Exhibit No. 44, Witness Scott," and is as follows:

(See page 1390.)

560,962.88

PLAINTIPP'S EXHIBIT #43.

A. E. Scott, Witness.

The Southwestern Telegraph and Telephone Co.

Houston Exchange.

Statement of Revenues and Expenses, Seven Months Ended August 31st, 1919.

Exchange Service Revenues.

Account			
number.	True of account.	Amount.	Total.
200	Subscribers' Station Revenues	\$552.507.26	
201		3.244.45	
203	Service Stations	253.78	
504	Private Exchange Lines	375.98	
505	Minor Rents of Exchange Plant.	3,507.82	
	Estimated Rental for 22,443 ft. of Conduit used for Toll purposes @ 8¢ per ft.		
	per annum \$1,795.44 Seven Months.	1.047.34	
	4.33 circuit miles of 22 gauge exchange cable used for Toll Purposes \$2.50		
	per quarter circuit mile or fraction thereof \$45.00 Seven months	26.25	
506	Other Exchange Revenues.		

PLAINTIPP'S EXHIBIT #43—Continued.

4		Total.	57 56 57	\$69,923.88		36	2.7	38	37	\$12,390.38	\$643,277.14	27,497.87	\$615.779.27
		Amount.	64,084.05 164.57 5,675.26			1,294.86	9,351.27	231.00	1,217.37			•	
Toll Service Revenues.	Message Tolls: Commission on Toll Messages passing over lines of The Southwestern Telephone & Telegraph Co. and other Connecting Companies on which a commission of 25% is allowed:	43. 8	Paid Tolls \$256,336.19 @ 25% Commission on 535 A. T. & T. Co.'s Messages @ 30.76¢ each. Allowance for handling through toll calls.	Total	Miscellaneous Operating Revenues.	Telegraph Commissions	Advertising & Directory	Rents from other Operating PropertyOther Miscellaneous Revenues.	Est. Rent for Div. Ofes. in Houston Exch. Bldg	Total	Total Telephone Operating Revenues	Less Licensee Kevenue Dr.—Mignis, Frivileges and Use of Froperty—bell System	Balance Telephone Operating Revenues
	510	Account number.				521	523	524 525			200	170	

CITY OF HOUST	ON VS. 1	s. W. BELL TEL. CO.	745
	\$67,945.99		\$226,408.55
\$10,545.19 18,095.39 1,386.95 19,515.95 12,554.89 1,680.94 8,618.24 8,618.24 8,512,296.71		13,917.30 1,733.07 4,356.27 172,920.54 5,287.06 1,771.60 4,234.97 1,900.54 7,576.96 1,862.96 847.28	
Supervision of Maintenance Repairs of Aerial Plant. Repairs of Underground Plant Repairs of Central Office Equip Repairs of Station Equipment Repairs of Station Equipment Repairs of Buildings and Grounds Station Removals and changes Other Maintenance Expenses. Total Less Repairs Charged Reserves.	Total Current Maintenance	Traffic Superintendence Service Inspection Operating Clerical Wages Operators' Wages Rest and Lunch Rooms Operators' Schooling Transmission Power Central Office Stationery & Pig. Miscellaneous Central Office Exp. Pay Station Expenses Other Traffic Expenses	Total Traffic Expenses
601 602 603 603 604 605 606 607 610		621 622 623 624 624 626 627 633 633 633	

PLAINTIPP'S EXHIBIT #43—Continued.

Total.	\$48,088.67	\$27,619.53 \$370,062.74 245,716.53
Amount. 6,537.02 7,520.39 2,133.89 2,672.02 10,004.31 2,138.19 9,847.23		9,916.09 3,659.79 3,048.70 1,496.75 11.60 1,021.55 6,606.17 1,158.88 700.00
count Title of account. 340-10 General Commercial Administration. 340-30 Local Commercial Administration. 343 Canvassing Advertising 344 Revenue Accounting 347 Revenue Collecting 348 Pay Station Commissions 349 Directory Expenses 340 Other Commercial Expenses.	Total Commercial Expenses	General Office Salaries General Office Supplies & Exp. General Office Supplies & Exp. General Law Expenses Law Expenses connected with damages. Law Expenses connected with damages. Relief Department and Pensions. Other General Expenses. Total Ceneral Expenses. Total Telephone Operating Exp. Net Telephone Operating Revenues.
Account number. 640–10 640–30 642 643 646 647 648 649 649		660 663 667 668 668 669 670 675 675

venues.
Re
Operating
from
Deductions

9,312.58	78,417.54	167,298.99		1,513.58	00.14	-
Uncollectable Operating revenues		Balance Operating Revenue	Deductions from Gross Income.	- W	Rent Deductions for Telephone Offices. Rent Deductions for Conduits Poles and other Supports.	Kent Deductions for Telephone Offices. Rent Deductions for Conduits Poles and other Supports. Estimated Rental for 3,128 Exchange Circuit Attachments on Toll Poles @ 10¢ each per annum—\$312.80—Seven months.
304 Uncollectable Taxes Assign	Total	Balan		331 Rent Deduct	.,	

PLAINTIFF'S EXHIBIT #44.

1477

A. E. Scott, Witness

The Southwestern Telegraph and Telephone Co.

Houston Exchange.

Statement of Revenues & Expenses, Four Months Ended December 31, 1919.

Account	Title of account.	Amount.	Total.
S	Subscribers' Station Revenues	\$253,223.11	
P	ublic Pay Station Revenues	2,254.95	
200	ervice Stations	910 16	
	rivate Exchange Lines	2,429.30	
E	Fatimated Rental for 23.443 Ft. Conduit used for Toll Purposes @ 8¢ per		
	ft. per annum	598.48	
4	4.33 Circuit miles of Exchange Cable used for Toll Purposes @ \$2.50 per	1	
	quarter circuit mile per annum	15.00	
5	Other Exchange Revenues		

\$258,884.03

Total

Toll Service Revenues.

297,049.95		Balance Telephone Operating Revenues
310,086.06		Total Telephone Operating Revenues. Less Licensee Revenue—Dr. Rights, Privileges and Use of Property—Bell System
8,199.26		Total
	1,249.28 5,945.23 177.00 132.11 695.64	Telegraph Commissions Other Telegraph Charges Advertising and Directory Rents from other operating Revenues Other Miscellaneous Revenues Estimated Rent for Division Offices
\$43,002.77		Miscellaneous Operating Revenues.
	38,619.58 106.43 4,276.76	Message Tol-s: Commission on Toll Messages passing over lines of The Southwestern Tel. & Tel. Co. and other connecting Companies on which a commission of 25% is allowed: Paid Tolls \$154.478.34 @ 25% Commission on 346 A. T. & T. Co.'s Messages @ 30.76¢ each. Allowance for switching Trhough Calls

tinued.
#44-Con
EXHIBIT #
PLAINTIPP'8

\$163,345.50		Total Traffic Expenses	
	2,757.94 1,787.73 5,537.87 1,373.16 1,263.90	:: 200 ::	832 832 833 833 833
	10,917.95 1,377.13 2,828.45 126,518.63 2,574.55 6,408.19	Traffic Superintendence Service Inspection Operating Clerical Wages Operators' Wages Rest and Lunch Room Operators' Schooling	621 622 623 624 624 627
\$52,058.07		Total Current Maintenance	
	57,342.39	Total Less Repairs Charged Reserves	611
	6,246.25 14,464.53 2,029.78 19,792.36 7,190.33 1,225.15 6,393.99	Supervision of Maintenance Repairs of Aerial Plant Repairs of Underground Plant Repairs of Central Office Equip Repairs of Station Equipment Repairs of Buildings & Grounds Stantion removals and changes Other Maintenance Expenses	602 603 604 605 607 610
Total.	Amount.		count

	\$29,319.77			\$18,024.15	262,747.49 34.302.46
3,151.82 5,032.84 1,022.02 50.64 7,497.41 6,225.11 1,033.47 5,306.46		\$7,143.38 2,231.95 1,368.38 711.62	742.23 5,039.86 386.73 400.00		
640–10 General Commercial Administration 642 Advertising 643 Canvassing 644 Revenue Accounting 647 Revenue Collecting 648 Pay Station Commissions 649 Directory Expenses 650 Other Commercial Expenses	Total Commercial Expenses	General Office Salaries General Office Supplies & Expenses General Law Expenses Insurance	Accidents and damages. Law expenses connected with damages. Relief Department and Pensions. Other General Expenses Telephone Franchise Requirements	Total General Expenses	Total Telephone Operating Expenses.
640 6422 6443 6443 6443 6443 6443 6443 6443	1479	663 663 667 668	669 670 672 675 675		

Commercial Expenses.

Plaintiff's Exhibit #44—Continued.

	Total.	49,623.27	15,320.81					1,280.58	16,601.39 119,999.96	(red) 136,601.35
ues.	Amount. 4,732.02 44,891.25		(red)		1,006.36	Toll Foles (a) 104.26			(red)	(red)
Deductions from Operating Revenues	Uncollectable Operating Revenues	Total	Balance Operating Revenues	Deductions from Gross Income.	Rent Deductions for Telephone Offices	Estimated Rental for 3,128 Exchange Circuit attachments on Toll Foles @ 10¢ each per annum	Rent Deductions for Instruments and Equipment. Miscellaneous Rent Deductions Miscellaneous Deductions from Income	Total Deductions	Balance Net Income before Deducting Depreciation	Balance Net Income
	Account number. 304 305				332		333 334	150		

1480 LAMAR LYNDON, a witness for the defendant, testified as follows:

Direct examination.

Questions by Mr. Howard:

Mr. Howard: This is Lyndon Exhibit No. 7.

(The exhibit was thereupon received in evidence, marked: "Lyndon Exhibit No. 7; witness Lamar Lyndon," and is as follows:

Basis.

- (1) Acceptance of all charges both direct expense and allocated to Houston Exchange.
 - (2) Credit of all Tolls to Houston Exchange.
- (3) Removal of the $4\frac{1}{2}$ per cent charge of the A. T. & T. Co. and substitution therefor of actual value of property supplied by that Company.

Revenues.

(a) Exchange Service Revenues	\$880,439 22,472 442,156
Expenses.	
(a) Use of A. T. & T. Co.'s Property. (b) Maintenance Expenses. (c) Commercial Expenses. (d) Commercial Expenses. (e) General Expenses.	$129,956 \\ 418,005 \\ 84,076$
1481	
(f) Uncollectible Items. (g) Taxes (h) Other deductions.	29,985
Total	812,188
Net Operating Revenues	536,870 136,320

The income was derived from a double rate which was \$5.00 for business and \$2.00 for residence telephones respectively for 5 months while for 7 months the rates were \$7.50 for business and \$3.00 for residence telephones, respectively. If the rate had been maintained

Net Balance for Surplus and Dividends......

at the lower figures of \$5.00 and \$2.00, the income would have been \$115,055 less than the actual income received. Deducting this sum from the net balance, there remains a final net profit of \$284,604.

The Federal Income Tax is not included in this Net Profit because Net Revenue is not intended by law to be deducted except

from Net Revenue itself.

1482 Statement of Revenues and Expenses, 1919.

Basis.

- (2) Exclusion of all general and other expenses not incurred in Houston, and allowance of percentages of Toll Revenues.
 - (a) Toll Allowance, 25 per cent.

Total Revenues for year	. \$1,024,213
Deduct for excess rates, 7 mos	. 115,955
Normal Gross Income	. 908,258

Total Evenences Evaluding General and Allocated Deductions

Total Linguistics, Literature & content and information Literature	
Maintenance (less acc. 801)	116,676
Traffic (less accts. 621 and 631)	376,259
Commercial (less accts. 630-10 and 642)	69,749
General (668 and 674 only)	3,635
Charge for use of A. T. & T. Co.'s property	12,900

Charge for use of	fA.	7	Γ.	4	£	T	(0	. ?	9	p	r	0	pi	er	t	r		*				,	12,900
Uncollectible ite																								15,084 99,965
Total																							,	 697,829

Gross	profit	۰	٠	0	6	0 0	 	٠		 	۰		0		 				 		۰	210, 136,		
																						100	UUI	e.

74.099

1483	If instead of deducting all the General Items, the same per-
	centage of the sum of these be added to the Annual Expenses
	4 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

as the percentage of Toll Revenue credited to the Local Exchange the amount of the net balance will be correspondingly reduced.

The items excluded are:

Balance for Dividends and Surplus

Acct. 601-Supervision of Maintenance	\$18,281
Acet. 621—Traffic Superintendence	26,329
Acct. 631-Miscellaneous Central Office Exp	15,415
Acct. 630-10—General Commercial Administration	10,656
Acct. 642—Advertising	3,669
General Expenses (all except 666 and 674)	45,005

rai Expenses	(an except	ooo and	0/4)	 45,000
Total				 119,357

Deducting this sum from the previously found net \$74,009, the Net Balance is \$44,170.	profit of
Net Profit to pay 8% on \$3,000,000	180,000 135,830
which is a 17.8 per cent increase for subscribers' revenue.	
(2) Annual profit for allowance of 35 per cent of Toll Is 35 per cent of General Allocated Charges.	ncome and
Previous Statement of profit on basis of 25 per cent proportion of Toll Income and General Expenses	\$44,070
1484	
Total Toll Income. 35% of Toll Income. 25% of Toll Income. Increase in Toll Income.	\$441,030 154,360 110,257
Total General Charges	44,103 \$119,357 41,775 29,839
Increase in General Charges	11,936
Increase in net income \$441,103—\$11,936—\$43,167. Total net profit—\$44,170 plus \$32,167—\$76,337.	
Net income required	180,000
Increase required	103,663
which is an increase of 13½ per cent. In the same manner the following Net Incomes and increases are found: For 50 per cent of Toll Revenue:	percentage
Net Income . Increased Income Required . Percentage increase in present rates .	\$124,521 55,479 7.3%
For 75 per cent of Toll Revenue: Net Income	205,006,
which is, practically, 7 per cent on present plant value.	

(By Mr. Howard:)

and expenses? Mr. Howard: Yes, sir.

1485

Q. Mr. Lyndon, I wish you would explain that exhibit which we have introduced as Lyndon Exhibit No. 7, labeled "Adjusted state-

Mr. J. D. Frank: This is adjusted statement of revenues

ment of Expenses and Revenues for 1919," just briefly state what

that purports to be and what it shows.

A. This is a statement in which the book receipts of the company, and all its operating expenses are included without change, except that the 41/2 % paid to the American Telephone & Telegraph Company has been removed and for that has been substituted a proper rational amount for the rental of whatever property the American Telephone & Telegraph Company furnishes; a reasonable business amount, something that a business man would pay that was independent and not under obligations to accept it, and also there is a credit of all the toll cost of all the toll receipts to the Houston Exchange. Furthermore, the actual revenues received for the year are included, instead of those which would have been received if the increased rates had not gone into effect, although that is subsequently corrected. The total operating expenses after being

deducted from the total gross income leaves as net operating revenues, \$536,879.00 for the year, and deducting the an-1486

nual depreciation of \$136,320.00, from that amount leaves net balance for surplus and dividends, \$400,559. Now, there is a statement made at the bottom of that table that the income was derived from a higher rate than the normal which obtained over a considerable period, and practically \$116,000 more obtained than it would have been if the rates had remained the normal rate, and deducting that from the net profit there remains as the final net profit which would have been obtained without that increase in rate, \$284,604.00. Now, we mention there that the Federal Income Tax is not included in this net profit because net revenue is not intended by law to be deducted except from net revenue absolutely-

Mr. D. A. Frank: That's your legal opinion?

A. That's what I understand to be true

Mr. D. A. Frank: You give as your opinion that that is the law?

A. Those are statements made to me by competent-

Mr. D. A. Frank: You just stated a proposition of law under oath

as your opinion of the law?

A. Exactly. Now, there is another statement for 1919 1487 which excludes from Houston all expenses which were not actually incurred in Houston. In the first statement the basis it will be noted includes as expenses all charges made direct, that is, direct expenses and those allocated to Houston. Now, in the second one, the expenses which have been allocated to Houston are rejected, and only those expenses which have been actually incurred in Houston are allowed and also in this case, we take as an experimental figure, for instance, a toll allowance of 25%, which is, as I say, the customary figure. We recognize that we cannot call for all of the toll charges, unless Houston is made to carry its proportion of the allocated costs. If it rejects the allocated costs, why, it can only then claim some rational portion of the toll, for toll receipts, and so excluding all general and other expenses-

Mr. D. A. Frank: That's in order to be fair?

A. Isn't that manifest?

(By Mr. Howard:)

Q. You can't hardly be fair with this concern because it don't undertake to set up the expenses and revenues of this institution without confusing them irretrievably with all their other operations.

A. At any rate, by taking the total revenues for the year amounting to \$1,024,213.00, and deducting therefrom the \$115,-88 955.00, which arose from the increased rate there remains

as the normal gross income for the year 1919, which is the income which would have obtained if that increased rate had not been put into effect, \$908,256.00. Now, the total expenses excluding general and allocated deductions, are those, maintenance, from which we deduct account 601 and allocated charge, becomes \$116,-876.00 instead of \$128.956.00; Traffic Charges, less account 621 and 631, becomes \$376,259.00, and commercial charges less account 630-10 and 642 become \$69,749.00; general expense which in this case includes account 668 and 674 only becomes \$3,625.00, instead of \$48.841.00 charged for the use of A. T. & T. Company's property \$12,900,—the 41/2 % being of course eliminated; uncollectible items \$15,084, which is the same as shown in the first statement; taxes, the same as shown in the first statement \$99,965.00, which gives a total of \$697,829, leaving a gross profit of \$210,429, and deducting from that gross profit the sum of \$136,320, which represents the annual depreciation, there remains as balance for dividends and surplus \$74,099. That is the second set up. The difference between the two being this: In the first one the City of Houston accepts all of the charges allocated against this exchange which would include its proportion of toll operations and maintenance and toll

1489 equipment, and takes in consideration in that all of the toll receipts. The other one is that the City of Houston is not charged with any of these costs and takes only 25% of the toll receipts. These are the fundamental differences in these two state-

ments.

Q. You have another set up there, I believe, Mr. Lyndon.

A. Now, the other set up is that in general all of the local charges incurred are carried by the Houston Exchange and all of the toll tharges which are applicable to the Houston territory and Houston area,—however they are the same percentage of these charges as is charged against Houston as the percentage of toll receipts which are allocated to Houston, that is, if the toll receipts given to Houston are 25% of the total, then 25% of the charges for maintenance of toll lines are chargeable against Houston, and that is the basis of this set up here, or this modification of the foregoing statement. Now, the items excluded, and which are allocated items, or the totals you might say, of the allocated items are \$119,357, and they are given in detail on the page. Now, 25% of this sum is \$29,839. Now, if this be deducted from the previously net profits of \$74,009, the net balance is \$44,170. That's the net balance, net earnings for the year on the basis that there was no increase in rates, and that the rates remained at \$5.00 and \$2.00. Now, the net profit 1490 required to pay 8% on the value of the property of \$3,000, 000 is \$180,000.

The Master: To pay 6% you have got it here.

A. The sixes and eights on this machine in the final copies are absolutely indistinguishable, but you know 6% would make \$180,000.

Mr. D. A. Frank: A little thing like 2% wouldn't make much difference.

A. Well, it would make some,—I would like to have it, 6% would be \$180,000 and the required addition to income, that is the required addition to that \$44,170 necessary to make up the \$180,000 is \$135,830, which is 17.8% increase for subscribers' revenue. In other words, 18% increase ought to give a 6% return on the valuation of these properties. That is, on the basis of 25% of the allocated charges being carried by Houston, and 25% of the toll being allowed to Houston as credited. Now, if instead of 25% the ratio of both toll income and toll expenditure for Houston be made 35%, then by following the computations through it will be seen that in order to pay 6% on the \$3,000.00 valuation, the increase required is $13\frac{1}{2}$ %, that is the increase in rates; and in the same manner the net income for 50% of the toll revenue allowable to Houston,

and 50% of the toll charge against Houston, shows that the increase in the present rates would be 7.3% in order to make 6% return net on \$3,000,000. If 75% of the toll revenues and the toll expenses be allowed to Houston, then the net income

would be practically 7% on the present plant valuation?

Mr. Howard: I introduce this as Lyndon Exhibit No. 8, this statement styled "Allocated charges Houston Exchange. The Southwestern Telegraph & Telephone Company for 1919."

(The statement was thereupon received in evidence marked: "Lyndon Exhibit No. 8; witness Lamar Lyndon," and is as follows:

Allocated Charges.

Heavy charges are made against the Houston Exchange for expenses incurred elsewhere, namely, at Dallas and St. Louis, and it is difficult to find any foundation for these charges except that they are incurred for the benefit of The American Telegraph & Telephone Company in keeping records of the different local properties owned and which, while an obvious necessity to the parent Company does not contribute to and is in no wise necessary for the service of the public in Houston.

It is assumed as fundamental, that there can be no charge against the public of Houston except for those expenditures which 1492 definitely provide service together with all necessary local administration and engineering. It is possible that some small benefits accrue to the City of Houston from the proportion of engineering supervision given the plant by the District and General

Offices, but that these benefits warrant charges against the local Exchange in any degree approaching the amounts shown in the Com-

pany's book statements, is wholly untenable.

Consider the two following tables which show the actual and the allocated expenses for the Houston Exchange, one covering the 7 months ending August 31st, the other for 2 months ending October 31st, 1919:

For the Seven Months Ended August 31st, 1919.

Acet. No.	Title of account.	Total for allocation.	Allocated to Houston.	Houston expense.	Total Houston expense.
660 663 667	General Office Salaries & Wages. General Office Supplies and Expenses. General Law Expenses. Insurance	70,172.58 25,899.00 21,574.56 144.10	9,916.09 3,659.79 3,048.70 20.36	1,476.39	9,916.09 3,659.79 3,048.70 1,496.75
669 670 672 675	Accidents & Damages Law Expenses Connected with Damages. Relief Dept. & Pensions. Other General Expenses.	7,229.17 46,749.49 5,236.22	1,021.55 6,606.17 739.93	418.95	1,021.55 6,606.17 1,158.88
	Totals	177,005.12	25,012.59	1,895.34	26,907.93
1493	For the Two Months Ended October 31st, 1919.	ober 31st, 19	19.		
Acet. No.	Title of account.	Total for allocation.	Allocation to Houston.	Houston expense.	Houston expense.
660 663 667 668	General Office Salaries & Wages. General Office Supplies and Expenses. Insurance	24,101.72 6,272.21 3,822.48 11.51	3,750.95 976.15 594.89 1.79	396.98	3,750.95 976.15 594.89 398.77
669 670 672 675	Accidents & Damages. Law Expenses Connected with Damages. Relief Department and Pensions. Other General Expenses.	2,100.00 13,730.18 1,287.69	326.82 2,136.83 200.40		326.82 2,136.83 200.40
	Totals	51.325.79	7,987.83	396.98	8,384.81

These tables show that of all the general charges, the only ex-

penditures actually incurred in Houston are for insurance.

Nor does this allocation under General Expenses include the whole story. Account No. 601, entitled "Supervision of Maintenance"; Account No. 621, entitled "Traffic Superintendence"; Account No. 640-10, entitled "General Commercial Administration"; Account

No. 642, entitled "Advertising," and Account No. 631, entitled "Miscellaneous Central Office Expenses," all aggregating \$74,352, were either wholly, or partially, allocations to the Houston Exchange, and not actual disbursements, made locally.

It is impossible to conceive that if the Houston Exchange were a local utility, and not one unit in an immense corporation which covers the entire United States, that it would be compelled to incur overhead charges of any such magnitude, hence, this burden cannot, logically, be imposed on the Houston public. I, therefore, have made an arbitrary estimate of what additional overhead would be required for the Houston Exchange, if it had no outside financial relations, and the amount of these before-named allocated charges have been deducted from the operating expenses as shown by the Company's books, in order to make a rational figure of reasonable and proper expense for Administration, Supervision and other overhead charges.

1495

Article IV.

Telephones.

Any person, firm, corporation or receiver operating or owning telephone lines and exchanges within the City of Houston, Harris County, Texas, engaged in the business of furnishing telephone connection and service to the cityzens of said City of Houston, shall charge not exceeding the following rates, to wit:

Telephone lines and exchanges having three thousand (3,000) or less paying subscribers within the limits of the City of Houston shall have the right to charge, for business or office connection, Three Dollars (\$3,00) per month; for residence, Two Dollars (\$2,00) per

month.

Party Lines: Business or office, Two Dollars (\$2.00) per month;

residence, One Dollar (\$1.00) per month.

Telephone lines and exchanges having in excess of three thousand (3,000) paying subscribers within the limits of the City of Houston shall have the right to charge, for business or office connections, Five

Dollars (\$5.00) per month; for residence, Two Dollars

1496 (\$2.00) per month.

Party Lines: Bussiness or office, Three Dollars (\$3.00) per month; residence, One and 50/100 Dollars (\$1.50) per month.

Provided, that the rates above fixed are fixed for a reasonably efficient service, and in the event the service is not reasonably efficient, the subscriber or customer can satisfy his bill and the requirements of this section by paying or tendering to the person, firm, corporation or receiver operating or owning the telephone lines such pro-

portion of the rate fixed by law for the service as the service actually

furnished bears to a reasonably efficient service.

In the event the service is not reasonably efficient, and the customer has paid in advance for the service at the rate fixed by this section, he can deduct an amount proportionate to the deficiency in the service from the rate for the next month, and the person, firm, corporation or receiver operating or owning the telephone line shall be bound in all cases to receive said sum of money and continue to furnish the service; provided, that the amount of money paid by the customer is proportionate to the service rendered.

1497

Article IV.

Telephones.

That every person, firm, association, corporation or receiver operating or owning telephone lines and exchanges in the City of Houston, Harris County, Texas, engaged in the business of furnishing connections and service to the citizens of the said City of Houston, is hereby required to file between January 1st and March 1st of each year a sworn annual report showing all property, real, personal and mixed, of said corporation or persons, on hand on said January 1st, and owned by said corporation or persons, and used in said telephone business in the year preceding said date and showing the gross income derived from the operation of said telephone business in the City of Houston for the year preceding said January 1st, and showing the actual expense of operation and maintenance of said telephone system in the City of Houston for the year preceding said January 1st; and furnishing such other information as may be by this chapter specifically required.

The report in so far as it undertakes to state the property of said public service, business and the value of same, shall not be sufficient or a compliance with this article unless it sets forth a detail

1498 list and description of all property, real, personal and mixed, owned by said person, firm or corporation, in Houston, Texas, on January 1st, of each year; and also of all property in Houston, Texas, actually used in the telephone business in said city in the year preceding said January 1st, together with a statement of the value of each item of property set opposite the same in said list.

If any of such listed property is not or has not been during the year preceding said January 1st, actually used in said telephone

business, that fact shall be stated in the report.

The report shall state also with reference to each item of property and assets, the condition of same on said January 1st, and the extent, if any, to which same is depreciated in value from age, use or other causes. The report shall also state, with reference to each item of property the estimated cost of reproducing the same new on the date, January 1st.

Said report of property and assets and value thereof, situated in Houston, shall specifically state whether any of the property listed is situated in Houston Heights or Brunner, or elsewhere without the

corporate limits of the City of Houston and within two (2) miles thereof, and is used and operated in connection with the 1499 Houston offices, and shall state separately the value and the degree of depreciation and cost of production of each of said items of property operated in connection with the Houston office and situated in Brunner, Houston Heights, or outside the corporate limits of the city and within two (2) miles of said limits.

Said list of property shall specifically set forth among other prop-

erty:

First. All real estate or lease-hold interests in land, describing same, owned by said person or corporation engaged in said telephone business.

Second. The number of linear feet of conduits, stating the location of same within the city, and from what beginning point to what ending point they extend. By a linear foot of conduit is meant a foot in length of same, whether same contains one duct or many ducts; and said statement shall show as to each conduit, how many ducts it contains and how many wires are contained in each duct. And said report shall show in what year the said conduits were constructed and shall further show how many linear feet of conduits are situated within the limits of the City of Houston, and how many

linear feet of conduits, if any, are situated outside of the limits
1500 of the city within two (2) miles thereof, and what part of
same, describing same, were constructed in the year preceding
said January 1st. And said report shall be accompanied by a map
or sketch representing plainly on same the location of said telephone

conduits.

Third. Said report shall also show the number of telephone poles owned and operated by said person, firm or corporation on January 1st, and during the year preceding, and shall be accompanied by a map or plat showing the location and position of the various lines of poles and of each pole, and the report shall indicate how many of said poles are situated within the corporate limits of the City of Houston and how many of the same are situated outside of the corporate limits of the city, and within two (2) miles thereof, and shall state specifically how many of the poles listed were erected in the year preceding said date of January 1st; and said report shall show the number of wires strung on said poles.

In addition to the other matters required by this report, same shall state the estimated value of a telephone pole, not inserted in the ground, and the cost and expense of inserting a pole in the

ground, and the estimated value of each mile of single tele-1501 phone wire, and the estimated cost and expense of inserting said mile of wire in a conduit, and of stringing same on poles, and the estimated expense of constructing one thousand (1,000) feet of conduits, not including in said last estimate the cost of inserting the wires therein.

And the report shall state specifically with reference to each pole

and line of wire what its condition with reference to being in a state of repair.

Fourth. Said list of property shall also include a specific list of each telephone exchange owned by said person, firm or corporation, stating whether the building and property on which same is situated is owned by said person, firm or corporation, or is rented, and giving a specific list of all switch boards and of all other property of said telephone business, such as telephones and all appliances and appurtenances used in connection with said telephone business, and shall state specifically with reference to all property, whether same was purchased or constructed in the year preceding the said date of January 1st.

Fifth. Said person, firm or corporation shall list any other property or assets (used in its telephone business in Houston) which it may own, and state the value and other required information in reference to same, if they believe that such property or assets and its value should be considered in fixing or regulating the rates to be charged for said telephone service.

An Ordinance Authorizing Consolidation and Merger of the Houston Telephone Exchange of the Southwestern Telegraph and Telephone Company and the Telephone Exchange of the Houston Home Telephone Company, Prescribing the Terms and Conditions of Such Consolidation and Merger, and Declaring an Emergency.

Be it ordained by the city council of the city of Houston:

Section 1. By authority of Article 1236a—Vernon's Sayles' Texas Civil Statutes, 1914, (Acts 1913, page 92, sec. 2) consents and authority is hereby granted by the City of Houston to the Southwestern Telegraph & Telephone Company to take over, consolidate with, and merge into its Houston Telephone Exchange, the exchange and all property of the Houston Home Telephone Company, upon the following terms and conditions, to-wit:

- (a) The Houston Home Telephone Company shall, within thirty (30) days after this ordinance becomes effective, pay all back taxes due, including the tax upon income; the taxes of 1915, shall be assumed by the Southwestern Telegraph & Telephone Company.
- (b) The Southwestern Telegraph and Telephone Company will give connection through its Houston exchange to its subscribers' stations in the City of Houston to all toll lines now connected to the Houston Home Telephone Company's Houston Exchange, and will give toll lines connection to any toll lines hereafter constructed to the City of Houston reaching and serving cities or towns in Texas not reached or served by the toll lines of the Southwestern or its connecting companies, so that direct telephonic communication may be had between the users of such toll lines and the the sub-

1504 scribers' stations of the Southwestern Company in the City of Houston. Said connection and service shall be had upon reasonable rates of charge and under reasonable rules and regulations to be fixed and prescribed by said Southwestern Telegraph and Telephone Company, which rules and regulations shall be subject to the approval of the City Council.

- (c) Said Southwestern Telegraph and Telephone Company agrees as long as it operates a telephone system in Houston to maintain telephone service in said City, first class in all respects, and to assist therein, it agrees to pay the salary of a telephone inspector for the City, not to exceed One Hundred Dollars (\$100.00) per month; said inspector shall be an experienced and practical telephone man, and shall be appointed and may be removed by the Mayor of the City. It shall be the duty of such inspector to receive complaints as to telephone service and to investigate same, and to assist in every way possible to maintain excellence of telephone service. Any investigation made by said inspector shall be made through the regular lines of organization of the Company, so as not to interfere with the maintenance and operation of the service.
- (d) Said Southwestern Telegraph and Telephone Company shall furnish the consolidation service at the same rates now charged to its subscribers in the City of Houston, and in addition to the service now aforesaid to the people of Houston, it shall furnish a measured service residence rate at One Dollar and fifty cents (\$1.50) per month, which rate shall entitle the subscriber to sixty outgoing calls per month; all additional calls to be paid for by the subscribers at three cents (3) each; no charge to be made for incoming calls.
- (e) The Southwestern Telegraph and Telephone Company agree- that it will not increase rates as at present charged by it for the service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify a warrant a raise in the rates, reasonable prove that there exists a necessity for an increase of charge in order that said company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date, that a fair return upon said capital and investment is not less than seven nor more than eight per cent.
- (f) The Southwestern Telegraph and Telephone Company, and the Houston Home Telephone Company, either or both, shall within ten (10) days after the written acceptance of the terms of this ordinance, pay into the Treasury of the City of Houston, the sum of Eighty Thousand Dollars (\$80,000.00) Which sum it is agreed is the full value of all and every interest of the City of Houston of every kind or nature whatever, presents, remote or contingent, in the plant and property of said Houston Home Telegraph Company; and especially in the underground system of said Houston Home Telephone Company; and upon payment of said sum, the Houston Home Telephone Company may convey said underground system

into its entirety to the Southwestern Telegraph and Telephone Company, free and clear of any and every claim of the City of Houston against the same, except its valid lien for taxes, if any are then unpaid; and said underground system and all of the property of the said Houston Home Telephone Company may thereupon be taken over and be owned, disposed of or used and maintained by said Southwestern Telegraph and Telephone Company, as a part of its Houston plant, free from any limitation or obligation impressed upon it by the franchise of the said Houston Home Telephone Company.

1506 (g) The Franchise of the Houston Home Telephone Company entitled:

"An Ordinance granting to — S. Slusher and F. H. Read, and their associates and assigns the right, franchise and privilege to build and maintain and operate a system of automatic telephone exchanges in the City of Houston, and granting the right of way and other privileges of the Streets of the City of Houston," passed and approved July 8, 1907, is now repealed, the Houston Home Telephone Company, the owner of said ordinance by assignment agreeing and consenting thereto.

- (h) Within thirty (30) days after this ordinance takes effect, the Southwestern Telegraph and Telephone Company, and the Houston Home Telephone Company, shall each file with the Mayor of the City of Houston their written acceptance of the terms and conditions of this ordinance, and within ten (10) days thereafter, the consideration nominated in paragraph "F" hereof, shall be paid into the City Treasury unless the time shall be extended by the City Council for good reasons shown, and upon such payments and the payment of the taxes due the City by the said Houston Home Telephone —, said consolidation and merger may be effected and completed in all respects.
- (i) The provision of this franchise granted by the City of Houston to the Southwestern Telegraph and Telephone Company relating to the adjustment of rates are hereby expressly reserved and made applicable to this ordinance.
- (j) That there may be interruption in the telephone service of present subscribers to the Houston Home Telephone Company, the Southwestern Telegraph & Telephone Company agrees that it will not discontinue the service of the Houston Home Telephone Com-

pany to any subscriber thereto, until reasonable opportunity has been afforded said subscribers to have installed and in operation, the telephone service of said Southwestern Tele-

graph and Telephone Company.

Section 2. There being a public emergency requiring that this ordinance be passed finally on the date of its introduction and the Mayor having in writing declared the existence of such emergency and requested such passage, the 10th day of May, A. D. 1915, and

shall take effect immediately upon its passage and approval by the Mayor.

Approved this 10th day of May, A. D. 1915.

BEN CAMPBELL, Mayor of the City of Houston.

C. A. GATES, a witness for the plaintiff, testified as follows: 1508

Cross-examination:

Q. (Interrupting.) Mr. Gates, I am asking you about when you got this charter?

A. I didn't get out the charter.

Q. How long has this corporation been in existence?

A. What charter are you talking about?

Q. The charter for the Southwestern Telegraph & Telephone Company?

A. I wasn't talking about the Southwestern Company; I don't know the exact date of the charter of the Southwestern Company.

Q. But we will finally come back to what the cost of establishing business was in this plant and not an imaginary one.

A. My estimate doesn't refer to the cost of establishing business

of the Southwestern Company.

Q. Don't you know that in the old days, before the Interstate Commerce Commission began prescribing the rules, that a great deal of this character of expense was paid out of operation?

A. That hasn't anything to do with the set-up.

Q. I am asking you if that isn't a fact?

A. Yes, it is a fact, but the accounting was different in earlier days than what it is today, but that does not enter into the reproduction appraisal that I have made here.

Q. You may not think so, but I might. That is true. then, that in the old days, in these cases, in a great many of these things-I mean a great many of these things were paid for in operating expenses.

A. Just what expenses?

Q. I asked you and you thought, that is, you said you thought that the expense of getting the charter, and fees paid the attor-

A. I never said that the expense of getting the charter was paid for in operating expenses: I said that there was a difference in the

accounting method.

Q. I am asking you if it isn't a fact that under the old accounting method that they would be charged up to operating expenses and paid out of earnings, a great deal of these things set up now as the cost of construction?

A. The cost of construction and the cost of establishing businessthere undoubtedly were some items that were charged up in that manner, but I do not believe that the cost of obtaining the charter was charged to operating expense; I don't think it was.

Q. Now, let's see: the next is the cost of establishing business. is the cost of selling the service. Now, you say from the city—just a minute, Mr. Stenographer. Well, Mr. Gates, under page 3—on page 228, numbered page 3 up above, and 228 below, you are talking about there—what are you talking about there? Are you talk-

ing about this plant, or an imaginary plant?

A. I am talking about the cost of establishing business in

1510 the city of Houston if you were to build a new exchange This is under the set-up as I have supposed right along. just exactly the same proposition as for legal expenses in getting a charter and conducting the legal affairs of the company that we were to set up and not the Southwestern.

Q. Now, you say that in 1915, 1916, 1917 and 1918 that you

incurred such costs for selling service?

A. Yes, sir.

Q. What was that cost charged to?

A. Charged to an account known as "Advertising and Canvassing."

Q. To operating expenses? A. Yes, sir.

Q. Charged to operating expenses? A. Charged to operating expenses.

1511 A. E. Scott, a witness for the plaintiff, testified as follows:

Cross-examination

Questions by Mr. Howard:

Q. As I get you, prior to 1913, Engineering and Superintendence and Maintenance, and Law Expense, Injury and Damages, and things like that were charged to operation?

A. Prior to 1910 all those items—take the item of Interest Dur-

ing Construction, wasn't considered at all.

Q. Not as Capital?

A. We didn't treat it at all. Q. Didn't treat it at all?

A. No, sir.

Q. You just let that go, disregarded it as insignificant?

A. It was part of the expense.

Q. Did you take care of it in any manner?

A. Yes, sir, it would be charged to yearly expense account.

Q. What would that be paid out of?

A. General operating expense.

1512 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

VS.

THE CITY OF HOUSTON et al., Defendants.

Præcipe.

To the clerk of said court:

The Clerk will please incorporate into the transcript of the record on appeal the following portions of the record which Plaintiff, Southwestern Bell Telephone Company, submits for the consideration of the United States Supreme Court in connection with the appeal of the Defendants herein:

- (1) Defendants' Waiver of Notice and Service to filing by Southwestern Bell Telephone Company of original Complaint in nature of a Supplemental Complaint, filed July 20, 1920.
- (2) Motion of Southwestern Bell Telephone Company for permission to file Original Complaint in nature of a Supplemental Complaint, filed July 20, 1920.
- 1513 (3) Order Permitting the Filing of Original Complaint in nature of a Supplemental Complaint of Southwestern Bell Telephone Company, filed July 20, 1920.
- (4) Original Complaint in nature of a Supplemental Complaint of Southwestern Bell Telephone Company, filed July 20, 1920.
- (5) Petition of Complainant for Extension of Time to file Præcipe, filed November 29, 1920.
- (6) Order of Court Enlarging Time for Complainant to file Præcipe, filed November 29, 1920.
- (7) Complainant's Assignment of Errors, filed December 17, 1920.
- (8) Complainant's Petition for Appeal and Order thereon, filed December 17, 1920.
- (9) Appeal Bond of Southwestern Bell Telephone Company, filed December 28, 1920.
- (10) Citation (to Defendants) on Appeal and Waiver of Service thereon, filed January 4, 1921.

- (11) Agreement as to Extension of Time for filing of Præcipe by Appellee, filed January 13, 1921.
- (12) Petition of Complainant for Further Extension of 1514 Time for Præcipe, filed January 15, 1921.
- (13) Order of Court granting Southwestern Bell Telephone Company a Further Extension of Time for filing Præcipe, filed January 18, 1921.
- (14) Petition of Southwestern Bell Telephone Company for Extension of Time to prepare Transcript of Record and Docket Cause in the United States Supreme Court, filed January 18, 1921.
- (15) Order of the United States District Court granting Extension of Time to Southwestern Bell Telephone Company for preparation of Transcript of Record on Appeal and Docketing Cause in the Supreme Court of the United States, filed January 18, 1921.
- (16) Joint Application of Plaintiff and Defendants for Order Authorizing Original Exhibits to be forwarded to the Clerk of the United States Supreme Court, filed January 17, 1921.
- (17) Order of Court granting Joint Application of Plaintiff and Defendants for Order Authorizing Original Exhibits to be forwarded to the Clerk of the United States Supreme Court, filed January 20, 1921.
 - (18) Agreement of Counsel, filed January 20, 1921.
- (19) Order granting leave to Incorporate Portions of the Testimony in the Record in Question and Answer form, filed 1515 January 22, 1921.
- (20) The following Exhibits and Abstract of Exhibits filed here with

Plaintiff's Exhibits numbers nine (9) and eleven (11), A. E. Scott, witness; pages 1425-1427, Statement of Evidence.

Plaintiff's Exhibits numbered twenty-four (24) to twenty-six (26), inclusive, and one hundred seventy-six (176), F. M. Hosg, witness; pages 1428 to 1434, Statement of Evidence.

Plaintiff's Exhibit No. 35, H. P. Topping, witness; pages 1435 and 1436, Statement of Evidence.

Plaintiff's Exhibits numbered forty-seven (47) to fifty-three (53), inclusive, H. B. Copes, witness; pages 1437 to 1443, Statement of Evidence.

Plaintiff's Exhibits numbered sixty-one (61) to one hundred twenty-one (121), inclusive, F. L. Rhodes, witness; pages 1444 to 1452, Statement of Evidence.

Plaintiff's Exhibits numbered one hundred twenty-two (122) to one hundred thirty-five (135), inclusive, Robert F. Estabrook, witness; pages 1453 to 1457, Statement of Evidence.

Plaintiff's Exhibits numbered one hundred thirty-six (136) to one hundred forty (140), inclusive, H. Blair-Smith, witness; pages 1458 to 1460, Statement of Evidence.

Plaintiff's Exhibits numbered one hundred forty-one (141) to one hundred forty-five (145), inclusive, E. V. Cox, witness; 1516 pages 1461 to 1536, Statement of Evidence.

Plaintiff's Exhibits numbered one hundred forty-six (146) to one hundred sixty-two (162), inclusive, W. O. Pennell, witness; pages 1537 to 1639, Statement of Evidence.

Plaintiff's Exhibit No. 163, C. A. Gates, witness; page 1640, Statement of Evidence.

Plaintiff, Southwestern Bell Telephone Company's Statement of Evidence in connection with the appeal of the Defendants, The City of Houston, et al., numbered as pages 1424 to 2252, inclusive, and filed herewith.

D. A. FRANK,
JOSEPH D. FRANK,
WM. H. DULS,
Solicitors for Plaintiff,
Southwestern Bell Telephone Company.

1517 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

VS.

CITY OF HOUSTON et al.

We consent to the filing of the attached Original Complaint in the nature of a supplemental complaint in the above cause, and hereby waive notice of service and other formalities which may be required by the rules of law or equity.

W. J. HOWARD,

Solicitors for Defendants.

1518 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

VS.

CITY OF HOUSTON et al.

Original Complaint in the Nature of a Supplemental Complaint of Southwestern Bell Telephone Company.

To said Honorable Court:

Now comes Southwestern Bell Telephone Company, hereinafter styled —, Complainant, and represents unto the Court as follows:

- 1. That it is a corporation organized under the laws of the State of Missouri, and was granted a permit to do business in The State of Texas on April 19th, 1920.
- 2. That for a valuable consideration, during the month of April, 1920, it purchased all of the telegraph and telephone property of the Southwestern Telegraph and Telephone Company in the State of Texas, and particularly the local telephone exchange and all of the telephone property in the City of Houston, Texas, by reason of which it became the legal and equitable owner thereof, and succeeded to all of the rights of The Southwestern Telegraph and Telephone Company.
- 1519 3. That on October 22nd, 1909, the City of Houston, respondent in the above styled case, passed an ordinance prescribing certain telephone rates to be charged in the City of Houston; that in December, 1917. The Southwestern Telegraph and Telephone Company, then owner of the telephone exchange in said City. applied to the City Council for an increase in the rates prescribed by the City ordinance of 1909, said rates prescribed in said ordinance having become wholly unremunerative and confiscatory; that permission to increase said rates was not granted; that on August 1st, 1918, the property of The Southwestern Telegraph and Telephone Company in said Houston exchange was taken over by the United States Government and placed under the supervision of the Postmaster General of the United States; that thereafter the Postmaster General ordered said ordinance rates of 1909 increased, and that said rates were increased on February 1st, 1919; that the City filed an application in the State court for an injunction to restrain the enforcement of said increased rates, and that this Court, the cause having been removed to this Court, upheld the Government rates, and upon

application of said The Southwestern Telegraph and Telephone Company issued an injunction against the City of Houston interfering with the charging and collecting of the increased rates during the period of Government control and operation; that or August 1st, 1919, the United States Government relinquished the control and operation of the property of the said The Southwestern Telegraph and Telephone Company, and that on August 7th, 1919, the Mayor of the City of Houston notified said The Southwestern Tele-

graph and Telephone Company that in accordance with the action of the City Council the City would insist upon the enforcement of the ordinance rates of 1909; that The Southwestern Telegraph and Telephone Company then applied to this Court for an injunction to restrain the City from interfering with the continued enforcement of the increased rates, alleging that ordinance rates of 1909 confiscated its property in its Houston exchange; that a hearing was had, and at the conclusion of the hearing the temporary injunction prayed for was denied and the case was referred to a Master.

- 4. That said ordinance of October 22nd, 1909, is general in its nature and prescribed confiscatory rates to be charged by telephone companies, and applies to all telephone companies doing business in the City of Houston, and is especially applicable to and will be enforced against Southwestern Bell Telephone Company, as the successor of The Southwestern Telegraph and Telephone Company in the ownership and operation of the local telephone exchange system in the City of Houston.
- 5. Southwestern Bell Telephone Company says that by virtue of its purchase of the property of The Southwestern Telegraph and Telephone Company in the City of Houston, all of the allegations of fact and of law contained in the Original Bill of Complaint of The Southwestern Telegraph and Telephone Company, except as otherwise appears herein, are applicable to and are hereby adopted by Southwestern Bell Telephone Company as its own, as fully and completely as if said Original Bill of Complaint had been original.

1521 nally prepared and filed by it.

Wherefore, premises considered, Southwestern Bell Telephone

Wherefore, premises considered, Southwestern Bell Telephone Company prays that it may be substituted for and stand in the place of The Southwestern Telegraph and Telephone Company, the Complainant in the original suit, and that it may have the benefits of said suit, and of the orders, decrees and proceedings therein, and that this original complaint be taken as supplemental to said original bill of complaint filed by The Southwestern Telegraph and Telephone Company, and that Southwestern Bell Telephone Company be granted the relief prayed for in said original bill of complaint in all respects, as though the original bill of complaint had been prepared and filed by it.

1522 STATE OF TEXAS, County of Dallas:

Before me, the undersigned authority, on this day personally appeared E. F. Carter, known to me to be a reputable person, who upon oath states that he was formerly General Manager of The Southwestern Telegraph and Telephone Company for the State of Texas, and that he is now General Manager of Southwestern Bell Telephone Company for the State of Texas; that he has read the foregoing instrument and that the facts and matters stated therein are true and correct.

Subscribed and sworn to before me this the 2nd day of June, A. D., 1920.

Notary Public in and for Dallas County, Texas.

(Endorsed on back:) No. 108—In Equity. S. W. Teleg. & Tel. Co. vs. City of Houston, et al. Defendant's Waiver of Notice and Service to filing by S. W. Bell Tel. Co. of Original Complaint in nature of a Supplemental Complaint. Filed July 20, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1523 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

VS.

CITY OF HOUSTON et al.

Motion of Southwestern Bell Telephone Company for Permission to File Its Original Complaint in the Nature of a Supplemental Complaint.

To said honorable court:

Now comes Southwestern Bell Telephone Company, and asks leave of the Court to file in this case its Original Complaint in the nature of a Supplemental Complaint, a copy of which is hereto attached.

D. A. FRANK, J. D. FRANK, WM. H. DULS,

Solicitors for Southwestern Bell Telephone Company.

1524 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

VS.

CITY OF HOUSTON et al.

Original Complaint in the Nature of a Supplemental Complaint of Southwestern Bell Telephone Company.

To said honorable court:

Now comes Southwestern Bell Telephone Company, hereinafter styled complainant, and represents unto the Court as follows:

- 1. That it is a corporation organized under the laws of the State of Missouri, and as granted a permit to do business in the State of Texas on April 19th, 1920.
- 2. That for a valuable consideration, during the month of April, 1920, it purchased all of the telegraph and telephone property of the Southwestern Telegraph and Telephone Company in the State of Texas, and particularly the local telephone exchange and all of the telephone property in the City of Houston, Texas, by reason of which it became the legal and equitable owner thereof, and succeeded to all of the rights of the Southwestern Telegraph and Telephone Company.
- 3. That on October 22nd, 1909, the City of Houston, respondent in the above styled case, passed an ordinance pre-scribing certain telephone rates to be charged in the City of 1525 Houston; that in December, 1917, the Southwestern Telegraph and Telephone Company, then owner of the telephone exchange in said City, applied to the City Council for an increase in the rates prescribed by the ordinance of 1909, said rates prescribed in said ordinance having become wholly unremunerative and confiscatory; that permission to increase said rates was not granted; that on August 1st, 1918, the property of the Southwestern Telegraph and Telephone Company in said Houston exchange was taken over by the United States Government and placed under the supervision of the Postmaster General of the United States; that thereafter the Postmaster General ordered said ordinance rates of 1909 increased, and that said rates were increased on February 1st, 1919; that the City filed an application in the State court for an injunction to restrain the enforcement of said increased rates, and that this Court, the cause having been removed to this Court, upheld the Government rates, and upon application of said The Southwestern Telegraph and Telephone

Company issued an injunction against the City of Houston interfering with the charging and collection of the increased rates during the period of Government control and operation; that on August 1st, 1919, the United States Government relinquished the control and operation of the property of the said The Southwestern Telegraph and Telephone Company, and that on August 7th, 1919, the Mayor of the City of Houston notified said The Southwestern Telegraph and Telephone Company that in accordance with the action of the City Council of the City, the City would insist upon the enforcement of

1526 the ordinance rates of 1909; that The Southwestern Telegraph and Telephone Company then applied to this Court for an injunction to restrain the City from interfering with the continued enforcement of the increased rates, alleging that the ordinance rates of 1909 confiscated its property in its Houston exchange; that a hearing was had and at the conclusion of the hearing the temporary injunction prayed for was denied and the case was referred to a Master.

- 4. That said ordinance of October 22nd, 1909, is general in its nature and prescribed confiscatory rates to be charged by telephone companies, and applies to all telephone companies doing business in the City of Houston, and is especially applicable to, and will be enforced against, Southwestern Bell Telephone Company, as the successor of The Southwestern Telegraph and Telephone Company in the ownership and operation of the local telephone exchange system in the City of Houston.
- 5. Southwestern Bell Telephone Company says that by virtue of its purchase of the property of The Southwestern Telegraph and Telephone Company in the City of Houston, all of the allegations of fact and of law contained in the original Bill of Complaint of The Southwestern Telegraph and Telephone Company, except as otherwise appears herein, are applicable to and are hereby adopted by the Southwestern Bell Telephone Company as its own, as fully and completely as if said Original Bill of Complaint had been originally prepared and filed by it.

Wherefore, premises considered, Southwestern Bell Telephone
Company prays that it may be substituted for and stand in
1527 the place of The Southwestern Telegraph and Telephone Company, the Complainant in the original suit, and that it may have the benefit of said suit, and of the orders, decrees and proceedings therein, and that this original Complaint be taken as supplemental to said Original Bill of Complaint filed by The Southwestern Telegraph and Telephone Company, and that Southwestern Bell Telephone Company be granted the relief prayed for in said Original Bill of Complaint in all respects as though the Original Bill of Complaint had been prepared and filed by it.

1528 STATE OF TEXAS, County of Dallas:

Before me, the undersigned authority, on this day personally appeared E. F. Carter, known to me to be a reputable person, who upon oath states that he was formerly General Manager of The Southwestern Telegraph and Telephone Company for the State of Texas, and that he is now General Manager of Southwestern Bell Telephone Company for the State of Texas; that he has read the foregoing instrument and that the facts and matters stated therein are correct.

Subscribed and sworn to before me this the 2nd day of June, A. D., 1920.

Notary Public in and for Dallas County, Texas.

(Endorsed on Back:) No. 108—In Equity. S. W. Teleg. & Tel. Co. vs. City of Houston et al. Motion of S. W. Bell Tel. Co. for permission to file Original Complaint, in nature of a Supplemental Complaint. Filed July 20, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1529 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

1.8

CITY OF HOUSTON et al.

This case coming on to be heard on motion of Southwestern Bell Telephone Company for permission to file its Original Complaint in the nature of a Supplemental Complaint, and it appearing that Defendants have waived notice and service, and the Court being fully advised of the causes and grounds upon which permission to file said Original Complaint, in the nature of a Supplemental Complaint, is sought, it is hereby ordered, adjudged and decreed that the motion be granted, and that Southwestern Bell Telephone Company be substituted for and in the place of The Southwestern Telegraph and Telephone Company, and that Southwestern Bell Telephone Company shall be subject to and have the benefit of all orders, decrees and judgments heretofore and hereafter made by this Court, and that the name of Southwestern Bell Telephone Company shall, in all subsequent orders and proceedings, be used in the place of The Southwestern Telegraph and Telephone Company, and the

Clerk of the Court is hereby ordered to file the same as of the date of this order as the Original Complaint in the nature of a Supplemental Complaint of said Southwestern Bell Telephone Company in the cause.

1530

GEORGE WHITFIELD JACK,

Judge.

Dated July 20th, 1920.

(Endorsed on back:) No. 108—In Equity. S. W. Teleg. & Tel. Co. vs. City of Houston et al. Order Permitting filing of Original Complaint in the nature of a Supplemental Complaint, of S. W. Bell Tel. Co. Filed July 20th, 1920. L. C. Masterson, Clerk; by J. L. Sexton, Deputy.

1531 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY

13.

CITY OF HOUSTON et al.

Original Complaint in the Nature of a Supplemental Complaint of Southwestern Bell Telephone Company.

To said honorable court:

Now comes Southwestern Bell Telephone Company, hereinafter styled Complainant, and represents unto the Court as follows:

- 1. That it is a corporation organized under the laws of the State of Missouri, and was granted a permit to do business in the State of Texas on April 19th, 1920.
- 2. That for a valuable consideration, during the month of April, 1920, it purchased all of the telegraph and telephone property of the Southwestern Telegraph and Telephone Company in the State of Texas, and particularly the local telephone exchange and all of the telephone property in the City of Houston, Texas, by reason of which it became the legal and equitable owner thereof, and succeeded to all of the rights of The Southwestern Telegraph and Telephone Company.
- 3. That on October 22nd, 1909, the City of Houston, respondent in the above styled case, passed an ordinance prescribing certain telephone rates to be charged in the City of Houston; that in December, 1917, the Southwestern Telegraph and Telephone Company, then owner of the telephone exchange in said

City, applied to the City Council for an increase in the rates prescribed in the ordinance of 1909, said rates prescribed in said ordinance having become wholly unremunerative and confiscatory; that permission to increase said rates was not granted; that on August 1st, 1918, the property of The Southwestern Telegraph and Telephone Company in said Houston exchange was taken over by the United States Government and placed under the supervision of the Postmaster General of the United States: that thereafter the Postmaster General ordered said ordinance rates of 1909 increased, and that said rates were increased on February 1st, 1919; that the City filed an application in the State court for an injunction to restrain the enforcement of said increased rates, and that this Court, the cause having been removed to this Court, upheld the Government rates, and upon application of said The Southwestern Telegraph and Telephone Company issued an injunction against the City of Houston interfering with the charging and collecting of the increased rates during the period of Government control and operation; that on August 1st, 1919, the United States Government relinquished the control and operation of the property of the said The Southwestern Telegraph and Telephone Company, and that on August 7th. 1919, the Mayor of the City of Houston notified the said The

Southwestern Telegraph and Telephone Company that in accordance with the action of the City Council the City would insist upon the enforcement of the ordinance rates of 1909; that The Southwestern Telegraph and Telephone Company then applied to this Court for an injunction to restrain the City from interfering with the continued enforcement of the increased rates, alleging that the ordinance rates of 1909 confiscated its property in its Houston exchange; that a hearing was had and at the conclusion of the hearing the temporary injunction prayed for was denied and the case was referred to a Master.

- 4. That said ordinance of October 22nd, 1909, is general in its nature and prescribed confiscatory rates to be charged by telephone companies, and applies to all telephone companies doing business in the City of Houston, and is especially applicable to, and will be enforced against, Southwestern Bell Telephone Company, as the successor of The Southwestern Telegraph and Telephone Company in the ownership and operation of the local telephone exchange system in the City of Houston.
- 5. Southwestern Bell Telephone Company says that by virtue of its purchase of the property of The Southwestern Telegraph and Telephone Company in the City of Houston, all of the allegations of fact and of law contained in the original bill of complaint of The Southwestern Telegraph and Telephone Company, except as otherwise appears herein, are applicable to and are hereby adopted by Southwestern Bell Telephone Company as its own, as fully and completely as if said original bill of complaint had been 1534 originally prepared and filed by it.

Wherefore, premises considered, Southwestern Bell Telephone Company prays that it may be substituted for and stand in the place of The Southwestern Telegraph and Telephone Company, the complainant in the original suit, and that it may have the benefit of said suit, and of the orders, decrees and proceedings therein, and that this original bill of complaint be taken as supplemental to said original bill of complaint filed by The Southwestern Telegraph and Telephone Company, and that Southwestern Bell Telephone Company be granted the relief prayed for in said original bill of complaint in all respects as though the original bill of complaint had been prepared and filed by it.

D. A. FRANK, J. D. FRANK, WM. H. DULS, Solicitors for Southwestern Bell Telephyne Company, Plaintiff.

1535 STATE OF TEXAS, County of Dallas:

Before me, the undersigned authority, on this day personally appeared E. F. Carter, known to me to be a reputable person, who upon oath states that he was formerly General Manager of The Southwestern Telegraph and Telephone Company for the State of Texas, and that he is now General Manager of Southwestern Bell Telephone Company for the State of Texas; that he has read the foregoing instrument and that the facts and matters stated therein are true and correct.

Subscribed and sworn to before me this the 2nd day of June, A. D., 1920.

Notary Public in and for Dallas County, Texas.

(Endorsed on back:) No. 108—In Equity. The Southwestern Telegraph and Telephone Company vs. City of Houston et al. Original Complaint in the nature of a Supplemental Complaint of Southwestern Bell Telephone Company. Filed July 20th, 1920. L. C. Masterson, Clerk; by J. L. Sexton, Deputy.

1536 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

THE CITY OF HOUSTON et al., Defendants.

To said honorable court:

Now comes Southwestern Bell Telephone Company, Complainant in above numbered and entitled cause, and represents unto the Court as follows:

That on the 23rd day of November, 1920, the Defendants filed with the Clerk of this Court a precipe, setting forth the portions of the record to be incorporated into the transcript on the appeal of this case to the United States Supreme Court; that under Equity Rule No. 75, Complainant is required to file within ten days from the 23rd day of November, 1920, a precipe with the Clerk of the Court, indicating such additional portions of the record as it may desire to be incorporated into the transcript; that by reason of the voluminous record in this case, it is impossible for Complainant to properly review the portion of the record prepared by the Defendants and the rest of the evidence and numerous exhibits in the case for the purpose of determining the additional portion of the record

which this Complainant may desire incorporated into the

1537 transcript.

Wherefore, premises considered. Complainant prays that the time within which it shall be required to file its precipe with the Clerk of this Court be enlarged for a period of 40 days.

JOSEPH D. FRANK, Solicitor for Complainant.

(Endorsed on back:) Equity No. 108. Southwestern Bell Telephone Co., Complainant, vs. The City of Houston et al., Defendants. Petition of Complainant for extension of time to file precipe. Filed 29th day of November, 1920. L. C. Masterson, Clerk; by J. L. Sexton, Deputy.

1538 In the District Court of the United States for the Southern District of Texas. Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Defendant,

THE CITY OF HOUSTON et al., Defendants.

On this the 26th day of November, A. D., 1920, came on to be heard the petition and application of Southwestern Bell Telephone Company, Complainant in the above entitled and numbered cause, for the enlargement of the time in which to file its Precipe with the Clerk of this Court, indicating the additional portions of the record desired by the Complainant to be incorporated into the transcript upon the appeal of this case to the United States Supreme Court, and said application having been duly considered, and the Court having heretofore entered an order extending the time in which to prepare the transcript of the record in this cause and to docket said cause in the Supreme Court of the United States until February 13th, 1921, and it appearing that there is good cause for the enlargement of the time for the filing of Complainant's precipe, as prayed by the Complainant, it is considered by the Court, and so ordered, adjudged and decreed that the time in which to file Complainant's precipe, setting forth the additional portions of the record to be incorporated into the transcript be and the same is 1539 hereby enlarged and extended for a period of 40 days.

GEO. WHITFIELD JACK,
Judge of the District Court of the United States
Sitting in the Southern District of Texas.

(Endorsed on back:) Equity No. 108. Southwestern Bell Telephone Company, Complainant, vs The City of Houston, et al., Defendants. Order of Court enlarging time for filing precipe by Complainant. Filed 29th day of November, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1540 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

THE CITY OF HOUSTON et al., Defendants.

Assignment of Errors.

Now comes Southwestern Bell Telephone Company, Complainant in the above entitled and numbered cause, and files the following Assignment of Errors upon which it will rely upon its prosecution of the appeal in the above entitled cause from the decree made and entered by this Honorable Court on the 18th day of September, 1920:

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That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Fourth exception to the report of the Special Master and in sustaining Defendants' Fourth exception to said report in setting aside the finding by the Special Master, that there should be included in the valuation of Complainant's property the sum of \$765,000.00 for that element of value over and above 1541 the value of Complainant's physical property, existing by reason of the fact that Complainant has an assembled and established telephone plant in the City of Houston, doing business and earning money, such value being referred to as going concern value, and in holding that the Complainant's agreement in accepting the merger ordinance of 1915 that the sum on which it should receive a fair return should be the capital actually invested, estopped Complainant from claiming any return upon such element of value,

because said contract and agreement is in violation of, and prohibited by Article I, Section 17, of the Constitution of the State of Texas, prohibiting the granting of any irrevocable, or uncontrollable grant, franchise, privilege or immunity, and for the further reason that the Court took as the capital actually invested the cost of the property as shown by Complainant's books and, as shown by the evidence, said books, in compliance with the Uniform System of Accounts prescribed by the Interstate Commerce Commission, showed only the original cost of the physical property, and the order and finding of the Court in eliminating the item of going concern value fails to permit Complainant to earn any return whatsoever upon said element of value, and is contrary to and not supported by the law or the evidence.

II.

That the United States Court for the Southern District of Texas, Houston Division, erred in not overruling in said decree Defendants' Fifth exception to the report of the Special Master, and erred in sustaining Defendants' Fifth exception to the Report of the

Master that the proper allowance for working capital to be included in the valuation of Complainant's property is \$238,000.00, and in substituting therefor the sum of \$120,000.00, or a reduction of \$118,000.00, because, as shown by the evidence, there was included in the amount allowed by the Special Master the value of certain telephone supplies and materials that are, and must be kept on hand by Complainant to take care of repairs and contingencies, and the Court's finding is based on Complainant's average monthly operating expenditures, which do not include the value of such supplies and materials, and the value of same are not included elsewhere in the report of the Special Master. And said order and decree is contrary to the law and the evidence.

III.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Eighth exception to the report of the Special Master and erred in sustaining Defendants' Eighth exception to the report of the Special Master in setting aside the finding of the Special Master that Complainant was entitled to set aside out of its revenue a sum equal to 6.33 per cent of \$5,500,000.00, the reproduction cost new of Complainant's physical property, as a reserve for depreciation, or \$348,150.00 for the year 1919, and substituting therefor the sum of \$289,380.00, the same being 6.33 per cent of \$4,571,567.00, the actual cost of the property, or a reduction in the amount to be set aside as a reserve for depreciation of \$58,770.00, because

the Court used the original cost of the physical property as the basis for the reserve for depreciation, whereas the proper basis upon which the reserve for depreciation should be computed is the reproduction cost new of the physical property, and the finding of the Court is contrary to, and not supported by the evidence.

IV.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Tenth exception to the report of the Special Master, and in sustaining Defendants' Tenth exception to said report in setting aside the finding of the Special Master that anything less than a return of eight per cent upon the value of Complainant's property is confiscatory, and in holding that Complainant is only entitled to earn a fair return upon the capital actually expended by Complainant in the Houston plant, plus an allowance of \$120,000.00 for working capital, making a total of \$4,691,567.00 upon which the Complainant would be entitled to earn a fair return, instead of upon \$6,000,000.00, the fair value of the property, because the Court's application of the fair return to which Complainant is entitled, is, and should be, based on the fair value of the property, and under the finding and holding of the Court Complainant is being deprived of any return whatsoever upon the difference between the original cost of its physical property, plus an allowance of \$120,000.00 for working capital, and the fair value of the property, which difference amounts to \$1,308,433.00, and Complainant, by the finding

of the Court and under the terms of the decree entered by the Court, is being deprived of an annual return of \$104,674.64, to which it is justly entitled, and the finding and holding of the

Court is contrary to the law and the evidence.

V.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Eleventh exception to the report of the Special Master, and erred in sustaining Defendants' Eleventh exception to said report in setting aside the finding by the Special Master that Complainant is not estopped to claim more than a fair return upon the original cost of its property, and in holding that Complainant specifically waived the right to claim anything more than a fair return on its capital actually invested in its Houston plant, or the original cost of said property, by the terms of Subdivision "E" of Section "I" of the ordinance passed by the City of Houston in 1915, and accepted by the Southwestern Telegraph and Telephone Company, Complainant's predecessor, authorizing the consolidation of the properties of the Houston Home Telephone Company and The Southwestern Telegraph and Telephone Company in the City of Houston, and reading:

"The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than 7 nor more than 8 per cent."

And in holding that said agreement constituted a contract binding upon the Complainant, because said contract, in so far as it attempts to fix the valuation upon which Complainant shall be entitled to earn a fair return is contrary to, in violation of, and expressly prohibited by Article "I," Section 17, of the Constitution of the State of Texas, which provides that "no irrevocable or uncontrollable grant of special privileges or immunities shall be made; and all privileges and franchises granted by the Legislature, or created under its authority, shall be subject to the control thereof." And said contract is void and unenforceable, because the Legislature of Texas has never delegated to the City of Houston, and under the provisions of Article "I." Section 17, of the Texas Constitution aforesaid, the Legislature of Texas can not delegate to the City of Houston the power to make said contract, because by the terms of said contract the City of Houston has attempted to and has abandoned its police power and governmental authority and duty to regulate the rates to be charged by Complainant, to the end that Complainant shall only be permitted to earn a fair return upon the value of its property, which value at different times may be either in excess of or below the capital actually invested, and the finding and holding of the Court is contrary to the law and the evidence.

1546 VI

That the United States District Court for the Southern District of Texas, Houston Division, erred in providing in its decree of September 18th, 1920, that the Defendants are restrained and enjoined from interfering with the Plaintiff in charging and collecting such rates as will not produce more than a fair return upon its capital actually invested, instead of restraining and enjoining the Defendants from interfering with Plaintiff in charging and collecting such rates as will not produce more than a fair return upon the fair value of the Plaintiff's property, because Plaintiff's capital actually invested in the Houston plant, as determined by the Court, is \$1,308,-433.00 less than the fair value of Plaintiff's property, and such order and decree of the Court has prevented and is preventing Plaintiff from earning any return whatsoever upon the said difference, and Plaintiff is entitled to earn a fair return upon the value of all of its property being used in furnishing telephone service to its telephone subscribers in the City of Houston, and said order and decree is contrary to the law and the evidence.

Wherefore, Complainant, Southwestern Bell Telephone Company, prays that said decree be reversed, and that said U. S. District Court

1547

for the Southern District of Texas, Houston Division, be ordered to enter a decree reversing the decision of the lower Court in said cause.

DAVID A. FRANK, JOSEPH D. FRANK, WILLIAM H. DULS, JOHN CHARLES HARRIS.

Solicitors for Complainant,

Southwestern Bell Telephone Company.

(Endorsed on back:) No. 108—In Equity. Southwestern Bell Telephone Co., Complainant, vs. The City of Houston et al. Complainant's Assignment of Errors. Filed 17th day of December, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1548 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

THE CITY OF HOUSTON et al., Defendants.

To the Honorable George Whitfield Jack, District Judge:

The above named Complainant, Southwestern Bell Telephone Company, feeling aggrieved by the decree rendered and entered in the above entitled and numbered cause, entered on the 18th day of September, A. D., 1920, does hereby appeal from said decree to the Supreme Court of the United States for the reasons set forth in the Assignment of Errors filed herewith, and it prays that its appeal be allowed and that citation be issued as provided by law, and that a transcript of the record, proceedings and document upon which said decree was based, duly authenticated, be sent to the Supreme Court of the United States, situated at Washington, D. C., under the rule of such Court in such cases made and provided.

And your petitioner further prays that the proper order relating to the required security to be required of it be made.

1549

SOUTHWESTERN BELL TELEPHONE COMPANY, By DAVID A. FRANK,

JOSEPH D. FRANK, WILLIAM H. DULS, JOHN CHARLES HARRIS,

Solicitors for Complainant.

Appeal allowed upon giving bond as required by law for the sum of \$1,000.00.

GEORGE WHITFIELD JACK,

Judge.

(Endorsed on back:) Equity No. 108. Southwestern Bell Telephone Company, Complainant, vs. The City of Houston, et al., Defendants. In the District Court of the United States for the Southern District of Texas, Houston Division. Petition for Appeal and Order thereon. Filed 17th day of December, 1920. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1550 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

THE CITY OF HOUSTON et al., Defendants.

Bond on Appeal.

Know all men by these presents, That we, Southwestern Bell Telephone Company, as principal, and E. M. Reardon, of Dallas, Dallas County, Texas, and F. H. Blankenship, of Dallas, Dallas County, Texas, as sureties, are held and firmly bound unto the Defendants, The City of Houston, and A. E. Amerman, Mayor of the City of Houston, Texas, Dan M. Moody, Tax and Land Commissioner of the City of Houston, H. A. Halverton, Fire Commissioner of the City of Houston, Matthew Drennan, Street and Bridge Commissioner of the City of Houston, David Fitzgerald, Water Commissioner of the City of Houston, Kenneth Krahl, City Attorney of the City of Houston, B. F. Louis, City Solicitor of the City of Houston, and Searcy Baker, Superintendent of Police of the City of Houston, jointly and severally, and to each and all of them, as their interest may appear, in the sum of \$1,000.00, lawful money of the

1551 United States, to be paid to them jointly and severally, and to their respective executors, administrators and successors; to which payment, well and truly to be made, we bind ourselves, and each of us, jointly and severally, and each of our heirs, executors and

administrators, by these presents.

Sealed with our seals and dated this the 24th day of December,

A. D., 1920.

Whereas, the above named Complainant, Southwestern Bell Telephone Company, has prosecuted an appeal to the Supreme Court of the United States to reverse the judgment of the District Court for the Southern District of Texas, Houston Division, in the above entitled cause.

Now, therefore, the condition of this obligation is such that if the above named Complainant, Southwestern Bell Telephone Company, shall prosecute its said appeal to effect and answer all costs, if it fails to make good its plea, then this obligation shall be void; otherwise, to remain in full force and effect.

SOUTHWESTERN BELL TELEPHONE COMPANY, By JOSEPH D. FRANK, Its Agent and Attorney in Fact,

Principal.

E. M. REARDON,
Surety.
F. H. BLANKENSHIP,
Surety.

Approved: GEO. WHITFIELD JACK, Judge.

I, Louis C. Maynard, Clerk of the United States District
Court for the Northern District of Texas, do hereby certify
that E. M. Reardon and F. H. Blankenship, whose signatures appear
signed to the annexed bond, are, in my opinion, good and ample
security for the amount therein specified; and that each of said
sureties has property in the County of Dallas, State of Texas, subject to execution of a larger amount, and that if said bond was offered
to me for approval, the same would be accepted and approved.

Witness my hand and seal of office at Dallas, Texas, this the 24th day of December, A. D., 1920.

[SEAL.] LOUIS C. MAYNARD,

Clerk United States District Court

for the Northern District of Texas.

(Endorsed on back:) Equity No. 108. Southwestern Bell Telephone Company, Complainant, vs. The City of Houston, et al., Defendants. In the District Court of the United States for the Southern District of Texas, Houston Division. Appeal Bond of Southwestern Bell Telephone Company, Complainant. Filed 28th day of December, 1920. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1553 In the District Court of the United States for the Southern District of Texas, Houston Division.

No. 108. Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY

VS.

THE CITY OF HOUSTON et al.

THE UNITED STATES OF AMERICA, 88:

The President of the United States to the City of Houston; A. E. Amerman, Mayor of the City of Houston; Dan M. Moody, Tax and Land Commissioner of the City of Houston; H. A. Halverton, Fire Commissioner of the City of Houston; David Fitzgerald, Water Commissioner of the City of Houston; W. J. Howard, City Solicitor of the City of Houston, and Searcy Baker, Superintendent of Police of the City of Houston, Greeting:

You and each of you are hereby cited and admonished to be and appear at the Supreme Court of the United States, to be held at the City of Washington, D. C., within thirty days from the date hereof, pursuant to an order allowing an appeal filed and entered in the Clerk's office of the District Court of the United States for the Southern District of Texas, Houston Division, from a final decree, filed and entered on the 18th day of September, 1920, in that certain suit, being in Equity No. 108, wherein Southwestern Bell

1554 Telephone Company, a corporation, is Appellant and you are Appellees, to show cause, if any there be, why the decree rendered against the said Appellant as in said order allowing appeal mentioned, should not be corrected, and why justice should not be done to the parties in that behalf.

Witness the Honorable Edward Douglass White, Chief Justice of the United States, this 2nd day of Jany., 1921, and of the Independence of the United States the One Hundred and Forty-fifth

Year.

GEO. WHITFIELD JACK, Acting United States District Judge for the Southern District of Texas.

Receipt of copy of this citation is hereby acknowledged and service thereof waived.

W. J. HOWARD, Solicitor for Defendants.

(Endorsed on back:) No. 108—In Equity. The Southwestern Bell Telephone Company vs. City of Houston, et al. Citation on Appeal to Supreme Court of the United States, issued Jan. 2, 1921. Filed 4th day of January, 1921. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1555 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY

VR.

CITY OF HOUSTON et al.

Agreement as to Extension of Time for Filing Appellees' Præcipe.

It is agreed by and between the parties hereto that the time for filing Appellee's Præcipe may be extended to February 1st, 1921, and that an order to that effect may be entered herein.

W. J. HOWARD, Solicitor for Appellant. JOSEPH D. FRANK, Solicitor for Appellee-.

(Endorsed on back:) No. 108—In Equity. Southwestern Bell Telephone Company vs. The City of Houston, et al. In the U. S. District Court for the Southern District of Texas, Houston Division. Agreement as to extension of time for filing Appellees' præcipe. Filed 13 day of Jan. 1921. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1556 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

CITY OF HOUSTON et al., Defendants

To said honorable court:

Now comes the Southwestern Bell Telephone Company, Complainant in the above numbered and styled cause, and represents to the Court as follows:

That it is and has been engaged in the work of preparing a Statement of the Evidence to be filed at the time of the filing of its precipe for the purpose of indicating the portions of the record which the Southwestern Bell Telephone Company, as the Appellee, will desire incorporated into the record, in addition to that portion of the record

set out in Defendant's Statement of the Evidence filed herein on the

19th day of November, 1920;

That the complete record in this cause is voluminous, and the Complainant is now having transcribed the additional portion of the testimony which it desires incorporated into the transcript, and that it expects to have this work completed by February 1st.

and the record in this cause does not have to be filed with the Clerk of the United States Supreme Court before February

13th, A. D., 1921.

Complainant further represents that when it files its Statement of the Evidence on February 1st, 1921, the same will be in such shape that the Clerk of this Court will not have any work to do, except

to bind the same together and certify thereto.

Wherefore, premises considered, Complainant prays that the time for the filing of its præcipe indicating the additional portions of the testimony which it desires to be incorporated into the transcript may be further extended and enlarged until the 1st day of February, A. D., 1921.

D. A. FRANK,
JOSEPH D. FRANK,
WM. H. DULS,
Solicitors for Complainant,
Southwestern Bell Telephone Company.

(Endorsed on back:) No. 108—In Equity. Southwestern Bell Telephone Co. vs. the City of Houston, et al. In the District Court of the United States for the Southern District of Texas, Houston Division. Petition of Complainant for further extension of time for filing præcipe. Filed 15th day of Jan. 1921. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1558 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

CITY OF HOUSTON et al., Defendants.

On this the 17th day of January, A. D., 1921, came on to be heard the Petition of the Complainant, Southwestern Bell Telephone Company, for a further extension and enlargement of the time for filing its præcipe, indicating the additional portions of the testimony which it will desire incorporated into the transcript, in addition to that portion of the record contained in the Defendants' Statement of the Evidence, filed herein on the 19th day of November, A. D., 1920, and said application having been duly considered, and it appearing that there is good cause for the enlargement and extension of said time, it

is considered by the Court, and so ordered, adjudged and decreed, that the time in which the Complainant, Southwestern Bell Telephone Company, shall be required to file its said præcipe is hereby enlarged and extended until the 1st day of February, A. D., 1921.

GEO. WHITFIELD JACK, United States District Judge.

1559 (Endorsed on back:) No. 108—In Equity. Southwestern Bell Telephone Company vs. The City of Houston, et al. In the District Court of the United States for the Southern District of Texas, Houston Division. Order of Court granting Southwestern Bell Telephone Company a further extension of time for filing præcipe. Filed 18th day of January, 1921. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1560 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE Co., Complainant,

VS.

CITY OF HOUSTON et al., Defendants.

Petition for an Extension and Enlargement of the Time Within ... Which to Prepare Transcript of the Record and to Docket Cause.

To said honorable court:

Now comes the Southwestern Bell Telephone Company, Complainant herein, and represents unto the Court as follows:

That both the Complainant and Defendants herein have filed Petitions for an appeal of this cause to the United States Supreme

Court, which have been granted:

That heretofore, on the 2nd day of January, A. D., 1921, this Honorable Court issued a Citation to the Defendants, commanding them to appear in this cause at Washington, D. C., within the thirty days;

That the time for the Southwestern Bell Telephone Company to file its transcript of the record and docket this cause in the 1561 Supreme Court of the United States will expire on the 2nd

day of February, A. D., 1921;

That heretofore, to-wit, on the 20th day of November, A. D., 1920, this Honorable Court, upon the application of the Defendants herein, granted said Defendants an enlargement and extension of the time within which to prepare their transcript of the record in the said cause, and to docket said cause in the Supreme Court of the United States, said order providing that said Defendants should have until the 13th day of February, A. D., 1921, within which to file a trans-

script of the record and docket said cause in the Supreme Court of

the United States;

That under the equity rules one record is sufficient when both parties appeal directly to the Supreme Court of the United States, and only one record will be filed in connection with the appeal in this cause;

That your Petitioner is now engaged in preparing its record and expects to have the same prepared by the 1st day of February, A. D., 1921, and desires to have the time for the filing of its transcript of the record and the docketing of the said cause extended and enlarged to February 13th, A. D., 1921.

Wherefore, premises considered, your Petitioner prays for an enlargement and extension of the time within which to prepare its transcript of the record in this cause, and within which to docket

this cause in the Supreme Court of the United States until the

1562 13th day of February, A. D., 1921.

D. A. FRANK,
JOSEPH D. FRANK,
WM. H. DULS,
Solicitors for Complainant,
Southwestern Bell Telephone Company.

(Endorsed on back:) No. 108—In Equity. Southwestern Bell Telephone Company vs. The City of Houston, et al. In the District Court of the United States for the Southern District of Texas, Houston Division. Petition of Southwestern Bell Telephone Co. for extension of time to prepare transcript of record and docket cause in the United States Supreme Court. Filed 18th day of January, 1921. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1563 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

CITY OF HOUSTON et al., Defendants.

On this, the 17th day of January, A. D., 1921, came on to be heard the petition and application of Southwestern Bell Telephone Company, Complainant in the above entitled and numbered cause for an enlargement and extension of the time within which to prepare the transcript of the record in said cause, and docket the said cause in the Supreme Court of the United States; and said application having been duly considered, and it appearing that there is good cause for the enlargement and extension of said time, it is considered by the Court, and so ordered, adjudged and decreed, that the time within which to prepare and file the said transcript of the record and docket

the said cause in the Supreme Court of the United States be, and the same is hereby enlarged and extended until the 13th day of February, A. D., 1921.

GEO. WHITFIELD JACK, United States District Judge.

1564 (Endorsed on Back:) No. 108—In Equity. Southwestern Bell Telephone Company vs. The City of Houston, et al. In the District Court of the United States for the Southern District of Texas, Houston Division. Order of the United States District Court granting extension of time to Southwestern Bell Telephone Company for preparation of transcript of record on appeal and docketing cause in the Supreme Court of the United States. Filed 18th day of January, A. D., 1921. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1565 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

CITY OF HOUSTON et al., Defendants.

To said honorable court:

Now come Plaintiff and Defendants in the above numbered and

styled cause, and represent unto the Court as follows:

That during the trial of this cause before the Special Master there was introduced in evidence by the Plaintiff one hundred seventy-seven (177) exhibits in connection with Plaintiff's testimony, and the Defendants introduced in evidence Kelsey Exhibits Nos. 1 and 2 and Lyndon Exhibits Nos. 1 to 15, inclusive, in connection with their testimony.

That said exhibits are material to the issues raised in the appeals which have been granted herein, and vary in length from one to sev-

eral hundred pages each;

That it is not practicable to have the same copied into the transcripts or bound therein owing to the length of a number of the exhibits and the mass of detailed figures contained therein.

1566 Your Petitioners would, therefore, respectfully suggest to this Honorable Court that it is necessary and proper to transmit the said exhibits with the transcript of the proceedings herein to the Clerk of the United States Supreme Court at Washington, D. C., for consideration in connection with the transcript of the proceedings herein.

Wherefore, premises considered, your Petitioners respectfully pray that an order be entered herein, as provided by Sec. 4 of Rule 8 of the Supreme Court, instructing the Clerk of this Court to forward with the transcript of the proceedings herein to the Clerk of the Supreme Court of the United States at Washington, D. C., for consideration by said Court in the review of the decree and judgment of this Court, Plaintiff's Exhibits Nos. 1 to 177, inclusive, and Defendants' Kelsey Exhibits Nos. 1 and 2 and Lyndon Exhibits Nos. 1 to 15, inclusive, with a request to the Clerk of the United States Supreme Court that said exhibits be carefully preserved and returned to the Clerk of this Court after the final determination of the respective appeals of the parties to this cause.

JOSEPH D. FRANK, Solicitor for Plaintiff. W. J. HOWARD, Solicitor for Defendants.

1567 (Endorsed on Back:) No. 108—In Equity. Southwestern Bell Telephone Company vs. The City of Houston et al. In the District Court of the United States for the Southern District of Texas, Houston Division. Joint application of Plaintiff and Defendants for order authorizing original exhibits to be forwarded to the Clerk of the U. S. Supreme Court. Filed 17th day of January, 1921. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1568 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VR.

CITY OF HOUSTON et al., Defendants.

On this the 19th day of January, A. D., 1921, came on to be heard the joint application of the Plaintiff and Defendants herein for the issuance of an order authorizing and instructing the Clerk of this Court to transmit to the Clerk of the Supreme Court of the United States, at Washington, D. C., the original exhibits introduced in evidence before the Special Master in the trial of this cause, and said joint application having been duly considered, and it appearing to the Court that it is necessary and proper that said original exhibits should be transmitted to the Clerk of the Supreme Court of the United States, as prayed by the Petitioners, it is considered by the Court that said application should be, and the same is hereby granted, and the Clerk of this Court is hereby authorized and instructed to forward to the Clerk of the Supreme Court of the United States, at Washington, D. C., Plaintiff's Exhibits Nos. 1 to 177, inclusive, and Defendants' Kelsey Exhibits Nos. 1 and 2 and Lyndon Exhibits Nos. 1 to 15, inclusive.

It is further ordered, adjudged and decreed that the Clerk of this Court write and send a letter of transmittal to the Clerk

of the Supreme Court of the United States, at Washington, D. C., requesting said Clerk to carefully preserve said exhibits and return the same to the Clerk of this Court upon the final determination of the respective appeals of the parties to this cause.

GEO. WHITFIELD JACK, United States District Judge.

Dated January 19th, 1921.

(Endorsed on Back:) No. 108—In Equity. Southwestern Bell Telephone Company vs. The City of Houston et al. In the District Court of the United States for the Southern District of Texas, Houston Division. Order of Court granting joint application of Plaintiff and Defendants for order authorizing original exhibits to be forwarded to the Clerk of the U. S. Supreme Court. Filed 20th day of January, 1921. L. C. Masterson, Clerk, by J. L. Sexton, Deputy.

1570 In the District Court of the United States for the Southern District of Texas, Houston Division.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS

CITY OF HOUSTON et al., Defendants.

Whereas, On the 20th day of July, 1920, after this cause had been finally determined by the Master, with the consent of the parties, and an order of the Court, Southwestern Bell Telephone Company was substituted in the place of The Southwestern Telegraph and Telephone Company as the Plaintiff, with the understanding and agreement that such substitution should in no way affect the litigation or prejudice either party on any question raised:

Therefore, it is agreed by and between the parties hereto that wherever the name The Southwestern Telegraph and Telephone Company appears in any of the papers constituting the record in this case which have been filed since July 20th, 1920, that the same shall be as legal and valid and have the same effect as if the name Southwestern Bell Telephone Company had been used, and it is further agreed and understood that the substitution of Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Telephone Company as party Plaintiff for The Southwestern Bell Teleph

western Telegraph and Telephone Company shall not in any 1571 manner or respect affect or prejudice the rights of either parties hereto on any issues arising in this cause.

JOSEPH D. FRANK,

Solicitor for Plaintiff.
W. J. HOWARD,

Solicitor for Defendants.

(Endorsed on back:) In the District Court of the United States for the Southern District of Texas, at Houston. Southwestern Bell Telephone Company vs. City of Houston et al. No. 108. In Equity. Agreement of Counsel. Filed January 20th, 1921. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1572 In the District Court of the United States for the Southern District of Texas, at Houston.

Equity. No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Complainant,

VS.

CITY OF HOUSTON et al., Defendants.

On this the — day of January, A. D., 1921, came on to be heard the joint application of the Plaintiff and Defendants herein for the issuance of an order authorizing and permitting the parties to have a portion of the testimony taken before Special Master incorporated in the record on appeal to the Supreme Court of the United States in question and answer form, and it appearing to the Court that a part of the testimony so introduced before the Special Master was of a technical nature, involving many computations and a mass of figures that it is impracticable to have such portions of the testimony incorporated in the record in narrative form, and that the parties, both Plaintiff and Defendants, desire to have such portions set forth in question and answer form, and it further appearing that the said record can be more properly made up by permitting portions of the said testimony to be set forth in question and answer form; it is considered by the Court that the said appli-

1573 cation should be and the same is hereby granted, to the extent that the parties Plaintiff and Defendants are hereby authorized and permitted to incorporate in the said record in question and answer form such parts of the evidence as may be of such technical character as to render it difficult to put in narrative form.

GEO. WHITFIELD JACK, Judge of the District Court.

Endorsed on back:) In the District Court of the United States for the Southern District of Texas, at Houston. Southwestern Bell Telephone Co. vs. City of Houston, et al. Equity No. 108. Order granting leave to incorporate portions of the testimony in the record in question and answer form. Filed 22 day of Jan., 1921. L. C. Masterson, Clerk, by M. Anderson, Deputy.

1574 In the District Court of the United States for the Southern District of Texas, Houston Division.

No. 108. In Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

VS.

CITY OF HOUSTON et al., Defendants.

- Plaintiff, Southwestern Bell Telephone Company's Statement of Evidence in Connection with the Appeal of the Defendants, the City of Houston et al.
- 1575 Abstract and Copies of the Principal Exhibits Introduced in Evidence by Plaintiff and Which Are Not Copied Into the Statement of Evidence.

Plaintiff's Exhibit No. 9 is as follows:

The Southwestern Telegraph and Telephone Company Statement of Dividends Paid, Years 1883 to 1919, Inclusive.

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883	to		1	8	18	35	9					0	9											0			0											1 1						None
890																						0				0					٠												9	4.50
891																		۰	٠		0				0	0										9					0		9	3.66
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Dividend rate.	Amount.	Per cent of total dividends paid.
Less than 4%	\$224,080	.98%
4% and less than 5%	679,063	2.98%
5% and less than 6%	11,581,860	50.85%
6% and less than 7%	5,779,658	25.38%
7% and less than 8%	2,455,500	10.78%
8%	585,280	2.57%
101/2%	1,470,000	6.46%
Total Dividends Paid	\$22,775,441	100.00%

Plaintiff's Exhibit No. 11. "Uniform System of Accounts for Telephone Companies as prescribed by The Interstate Commerce Commission in accordance with Section 20 of the Act to 1577 Regulate Commerce. First Issue effective on January 1, 1913."

This is a printed pamphlet containing 79 pages in which is set out in detail the system of accounting to be followed by "Class A" telephone companies which are defined as "companies having average annual operating revenues exceeding \$250,000.00" and "Class B" telephone companies which are defined as, "companies having average annual operating revenues exceeding \$50,000.00 but not more than \$250,000.00."

1578

PLAINTIFF'S EXHIBIT No. 24.

F. M. Hoag, Witness.

The Southwestern Telegraph and Telephone Company.

Houston Exchange.

Annual Rate of Reserve for Replacements.

Property account.	Per cent.
Land	0
Buildings	3.
Pole Plant	10.
Aerial Cable	5.4
Aerial Terminals and Miscellaneous	10.
Bare Iron Wire	16.5
Insulated Wire	15.
Drop Wire 20% of (15%)	3.
Underground Conduit, Main	2.
Underground Conduit, Subsidiary	4.
Underground Cable, Main	3.
Underground Cable, Subsidiary & Block	7.
Underground Cable, House	6.
Underground Terminals, and Miscellaneous	10.
Right of Way	4.
Central Office Equipment	10.5
Station Apparatus	11.
Station Installations 20% of (15%)	3.
Interior Block Wire 20% of (15%)	3.
Private Branch Exchange	11.
Booths and Special Fittings	11.
Furniture and Fixtures	10.
Tools and Store Equipment	0
Stable and Garage Equipment	20.

Houston Exchange.

Weighted Annual Rate of Reserve for Replacements.

A F	Per cent of total reproduction cost in each class rate of each class of plant.	Weighted annual rate of reserve.
Land	% 0. % 4.58	000. %
Buildings	3. 10.15	000
	10. 7.86	.786
Aerial Cable	5.4 11.30	.610
Aerial Terminals & Miscellaneous	10. 1.88	.188
Bare Iron Wire.	16.5 .49	.081
Insulated Wire.		
Drop Wire 20% of (15%)	3. 1.01	.030
Underground Conduit, Main.	2. 12.76	.255
ary		990.
	3. 11.92	.358
ary & Block	7. 1.04	.073
Underground Cable, House	627	.016
sellaneous	10. 1.22	.122
Right of Way	449	.020
quipment	10.5 24.64	2.587

Per cent of total

Weighted Annual Rate of Reserve for Replucements-Continued.

Note.—The Average annual depreciation rate for installations drops and block wires is determined as follows: The rate given in parenthesis is the proper rate, assuming that the installations, drops and block wires remain in service for their entire life. Owing to disconnection of service by subscribers, many installations, drops and block wires are removed or abandoned and charged to expense account at the time service is discontinued. It is estimated The depreciation rate is applicable only to the balance and therefore figured at 20% of the rate shown in parenthesis that about 80% of the installations, drops and block wires are treated in this manner.

1580

PLAINTIFF'S EXHIBIT No. -.

The Southwestern Telegraph and Telephone Company.

Houston Exchange.

Amount of Annual Reserve for Replacements.

Total Physical Property October 1, 1919	5,683,610
Annual Rate of Reserve	6.334%
Amount of Annual Reserve 5,683,610 x 6.334%	359,999.86

PLAINTIFF'S EXHIBIT No. 25.

1580a

F. M. Hoag, Witness,

The Southwestern Telegraph and Telephone Company.

Houston Exchange.

Life of Telephone Central Office Buildings in Texas.

Brick 1905-1915 10 Brick 7 Concrete 1899-1906 7 Brick 1891-1916 15 Concrete 1898-1912 14 Brick 1908-1913 5 Brick 1908-1911 16	Type of building.	Period of service.	Years in service.	Cause of removal.
Brick 7 Concrete 7 Brick 1891-1916 15 Concrete 1891-1916 15 Brick 1908-1912 14 Wooden, Frame 1908-1913 5 Brick 1895-1911 16 Brick 1904-1916 12		1905-1915	10	Inadequacy
Concrete 1899-1906 7 Brick 1891-1916 15 Concrete 1891-1916 14 Brick 1908-1913 5 Wooden, Frame 1895-1911 16 Brick 1904-1916 12				:
Brick 1891-1916 15 Concrete 1898-1912 14 Brick 1908-1913 5 Brick 1895-1911 16 Brick 1904-1916 12	Concrete	1899-1906	7	"
ton-Preston Brick 1898-1912 14 ton-Taylor Wooden, Frame 1908-1913 5 Antonio Brick 1895-1911 16 1904-1916 12	Brick			:
Brick Wooden, Frame 1898-1912 14 Wooden, Frame 1908-1913 5 Brick 1895-1911 16 Brick 1904-1916 12	Concrete	1891-1916	15	93
Wooden, Frame	Brick	1898-1912	14	"
BrickBrick	Wooden, F	1908-1913	10	"
Brick 1904-1916 12		1895-1911	16	"
	Briek	1904-1916	12	Destroyed by

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~	4	
-	0	0
-	002	e pad
0	9	
84	9	0
9	-	on on
7	-	E
Number of Buildings	Total years of service	Average life
7	2	4
-	-	-
		-

PLAINTIFF'S EXHIBIT No. 26.

Life of Central Office Switch-boards in Texas.

F. M. Hoag, Witness.

This Exhibit consists of 13 mimeographed pages. It deals 1581 with the life of switch-boards that have been installed in various towns and cities in Texas and later removed. The first column shows the town or city in which the board was installed; the second gives the type of switchboard, (magneto, common battery, etc.); the third gives the dates when the particular board was in service (e. g. 1903-1907); the fourth, the number of years the board was in service and the fifth, the cause of the removal of the board. On the thirteenth page the following summary appears:

Total common battery boards	18
Total years in service	123
Average years in service	6.83
Total magneto boards	270
Total years in service	2034
Average years in service	7.53

PLAINTIFF'S EXHIBIT NO. 176.

F. M. Hoag, Witness,

S. W. T. & T. Co., Houston Plant.

Realized depreciation.

	Average		E	A A STATE OF THE PARTY OF THE P	or cor burn	a years.	
Year.		Amount.	12th yr.	10th yr.	8th yr.	6th yr.	4th yr
	289,000		:				
	353,302						
	437.928						
	591 504		0 0		•	0 0	
	1001,004		* *			•	
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		8,027			2 6	6.4	4 9
		8.554			000	200	
		9,588		10.0	0.0	0.0	9 1
		0000		7.01	12.0	0.6	0.0
		3,903		52.6	35.2	25.1	19.8
		1.397	42.2	27.8	8 08	13.8	111 7
		7,748	16.3	11.0	6.7	6.9	4 6
		5.171	26.4	19.1	13.1	11.9	1.0
		7,372	30.2	21.5	16.91	19.7	1.5
		152,600	26.1	17.3	14.8	10	6
		1,662	10.2	8.0	0.9	9	0.00
		2,178	3.7	3,1	2.0	1.4	1.3
A variance 11 man 1000 1010			-		-		-
trought to years 1000-1019		0000					

1583

Depreciation Reserve.

The percentage of realized depreciation from 1909 to 1917 inclusive, as shown by Plaintiff Exhibit No. 176, averages four per cent of the average book cost of the plant for these years. This per cent covers actual realized depreciation and provides nothing whatever as a reserve for replacements of any kind which must necessarily be realized in the future. The major items of plant such as central office equipment, buildings, underground cable, none of which are included in this four per cent average, must in time be replaced and the amount of these replacements when realized is so great that if not provided for by building up a reserve, the company would have no funds with which to make them.

During the years 1918 and 1919, replacements were restricted because of Government orders giving priority in men, material, and money to industries essential to winning the war, and the effect of these orders was also to delay replacements for some time after they

became ineffective.

Amount for reserve for replacements allowed to be set aside under Government control 5.72% based on prior three years.

(Signed)

E. F. CARTER.

August 17, 1920.

PLAINTIFF'S EXHIBIT NO. 35.

1584

H. B. Topping, Witness.

The Southwestern Telegraph & Telephone Co.

Houston, Texas.

Topping Valuation Co.
Annual Depreciation Reserve.

		Par cont	Ammai amf of
Real Estate:	Reproduction cost new.	rate of reserve.	depreciation reserve.
Land	249,056		
Buildings:			
Preston	405,700		
Hadley	78,224		
Taylor.	41,084		
Warehouse	366		
Total Buildings:	525,374	2.5	13,134
nent:	1 901 997		
Other Equip. of Central Office.	17,167		: :
Total Equipment	1,912,004	10	191,200
Subscribers' Station Equipment:			
Apparatus	362,295		
Installations	92,358	****	
P. B. X.	67,184		

Block Wires. Booths & Special Fittings.	l Fittings	7,649	: :	: : : : : : : : : : : : : : : : : : : :	
Total Su	Total Sub, Sta. Equip	539,240	10	53,924	
Distribut	Distributing System:			1 1 1	(
Poles		555,641	07	55,564	CIT
Aerial Cable		168 461	5.0	95,340	Y
WITE.		805,670	2	16,113	OF
C. G. Conduit N	Mind are	113,594	1	7,952	но
" Cable Main.		827,029	ಾ	24,811	US
lnS " "	Subsidiary	162,558	1	11,379	TO
Right of Way		32,565	4	1,303	N I
Total Di	Total Dis. System.	3,527,340 6,753,014	: :	211,837 469,595	78. S. T
1585 Forward	(A)	\$6,753,014	:	469,595	V. B
General Equipment: Furniture & Fixtures Local	General Equipment:	27,788	10	2,779	ELL T
**	" General Prorate 50%	13,893	10	1,389	EL
Tools		12,467	20	2,493	. co.
Total Ge Total Pl	Total General Equipment	64,739	7.01	8,779 478,374	
Total Annual R	Total Annual Rate of Reserve for Depreciation in Per cent			7.01	8
Total Amount	Total Amount of Reserve for Depreciation			*478,374	09

1586

PLAINTIFF'S EXHIBIT No. 47.

H. B. Copes, Witness.

Houston Exchange.

Statement of Revenue to Exchange per Long Distance Call Handled from Allowance to Exchange of 25% of the Outward Toll Revenue.

September, 1919.

Outward Toll Revenue	\$36,281.00
Twenty-five Per Cent Outward Toll Revenue allowed	0.000.05
Local Exchange	9,070.25
Number Outward Toll Calls	
Number Inward Toll Calls 26,917	
Total Number Outward and Inward	
Toll Calls 60,761	

The Allowance to the Local Exchange per call handled amounts to 14.9 Cents.

PLAINTIFF'S EXHIBIT NO. 48.

1587

H. B. Copes, Witness.

Statement, September, 1919, Shouring the Average Amount per Call Paid 362 Independent Exchanges in Texas Connected Directly with the Toll Lines of the Southwestern Telegraph and Telephone Company for the Handling

	Total out		Total inw	ard business.	Total		
Number of exchanges.	Total calls.	Total calls. Total revenue.	Total calls.	Total revenue.	commissions.	Total calls. Total revenue. commissions. Rate %. Per call.	Per call.
362	286.219		303,392		\$24,374.33	121/2 & 121/2	4.13

Number of calls inward estimated on basis of study of January 1918 when this Inward business not checked.

PLAINTIFF'S EXHIBIT NO. 49.

1588

H. B. Copes, Witness.

Statement, September, 1919, Showing the Average Amount per Call Paid Local Exchanges for Handling Long Distance Calls by the Four Largest Independent Toll Line Companies in Texas.

Total business.

	Number of	Total	•	Outward.	AUI	nward.	-
Name of toll line company.	exchanges local connected, stations.	stations.		Revenue.	Calls.	Revenue.	call.
Does Towns Tall Co Brownwood	3.6	2.920		\$1,064.05	3,414	\$1,020.60	
Tale States Tell Co. Pelar	90	3.255		687.40	3,165	722.35	
full States Let. Co., 1975.	-	1.661		737,45	1,533	000.00	
I. Distance	8	6,455	5,580	1,682,60	4,418	1,452.55	
	-money	-		section (where to obtain print	-		
Totals	88	14,201		4,201.50	12,530	S.X62.10	

PLAINTIFF'S EXHIBIT NO. 50.

1580

H. B. Copes, Witness.

Statement, September, 1919, Showing Average Amount per Call Received by the Bight Largest Independent Exchanges in Texas for the Handing of Long Distance Messages Other Than the Long Distance Business of the Nouthrestern Telegraph and Telephone

Company.			No. of	Outwar	d business.	Inward	business.		
			ind.			-	1	Total	Received
		Local	toll	Total	Total	Total	Total	COIDS.	per call
Exchanges.	Population.	stations.	lines.	calls.	revenue.	calls.	revenue.	recd.	handled.
1	140,000	37.264	4	3.820	2,092,25	6,396	3,831.75	1,037.85	10.1€
Waco	37.500	7.440	61	9,902	53.358.85	6.732	3,830,39	1,337.98	8. 6
Port Arthur	22,000	1.877	1	49	10.10	49	10.10	2.52	2.5¢
Tomple	18,000	1.806	00	3,907	1,471.00	2,903	1,193.53	367.75	5.34
Shorman	17,500	2.920	60	2.020	581.85	1.826	128.€	150.62	3.94
Croenville	17,500	2.712	6	1,019	194.35	1,485	310.80	41.44	1.6¢
Denton	7 500	1,313	4	- Sec.	152.40	1.083	253.85	61.70	3.1¢
Conzales	4,000	1.164	-	17	4.10	S	6.50	2.12	6.0
	264,000	56,496	15	21,641	9,815.00	20,580	10,106.82	3,001.97	7.1¢

PLAINTIPP'S EXHIBIT NO. 51. H. B. Copes, Witness.

1560

Statement, September, 1919, Showing Average Amount per Call Received by the Bight Largest Independent Exchanges in Texas for the Handling of Long Distance Messages, Including the Long Distance Business of the Southnesstern Telegraph and Telephone

			No. of	Outwar	d business.	I II W SI I	d Dustiness.	Thursday.	Donning
		Local	ind.	Total	Total	Total	Total	COIDS.	per call
Exchanges.	Population.	stations.	lines.	calls.	revenue.	calls.	revenue.	reca.	Dandien
	140.000	37 264	10	81.268	49,834.95	67,472	41,548.59	5,812.12	27.0
	27 800	7 440	8	16,996	11,380,60	13,826	9,902. CE	2,552.30	× 75
0	000000	100	00	5.446	ASS. SE	5.446	1,838.35	368.17	3.34
Arthur	000000	1,011	1 4	5,500	(B) 802 G	4 90%	2,190,13	578.87	5.36
	10,000	00000	7	6 400	2 076 05	8 186	4.123.00	490.04	2.96
rman	11,000	020,2	7 9	0 695	2 787 60	10.001	3,904,05	939.75	4.76
enville	006,11	6,116	2	4 000	1 848 80	28.0	1 950 35	231.34	2.46
Denton	4,000	1,164	2 24	1,456	777.50	1,464	779.90	208.97	6.94
	000 900	7.6.406	1 8	123 648	75,970.46	116.233	66.236.41	11,176.56	4.46

No. 52.

Statement, September, 1919, Showing Average Amount per Call Received by the Five Largest Independent Exchanges Connected Directly with the Toll Lines of the Southwestern Telegraph and Telephone Co. for the Handling of Long Distance Calls.

Inward business.

Outward business.

EL. CO.	010
Recd. per call. 3.2.2. 11.9.2.	7.3
Coms. recd. 1,078.89 898.31 433.80 344.46 201.85	2,957.31
Total revenue. 4,315,55 3,593,25 1,724,05 923,50 773,40	11,329.75
Calls. 6.690 8.606 1.873 1.308	19,916
Total revenue. 4.315-555 3.588-25 1,746-45 1,319-80	11,748.45
Total calls. A6,690 A8,606 1,774 1,866 A1,439	20,375
S. W. Only	
Local stations. 3,284 2,712 1,822 1,441	10,423
Population. 22,600 17,500 12,000 6,000 4,000	61,500
Exchanges. Texarkana Greenville Brownwood Bryan	Totals

Alnward was not checked and Commissions paid on Outward business only.

14.9 Cents

PLAINTIFF'S EXHIBIT NO. 53.

1692

H. B. Copes. Witness.

Handing Long Distance Calls, the Highest Average Amount per Call Received by Any Large Independent Exchange, the Highest Statement Showing the Highest Amounts per Call Paid Independent Exchanges in Texas by Five Largest Toll Line Companies for Average Amount Paid per Call by Any of the Five Largest Toll Line Companies in Texas, and the Amount Allowed the Local Exchange at Houston per Call.

11.9 Cents	9.5 Cents	9.7 Cents	4.1 Cents	8.0 Cents	10.1 Cents	4.2 Cents	4.13 Cents		8.2 Cents	7.1 Cents	7.3 Cents	14.9 Cents
Highest per call payment by The Southwestern Tel. & Tel. Co., Brownwood, Texas			**************************************	" " The San Angelo Telephone Co., Ozona, Texas 8.				Highest average per call received by any of Eight Largest Independent Exchanges including Southwestern business, Waco,			Average per call paid by The Southwestern Tel. & Tel. Co. at Five Largest Exchanges	
High	**	**	**	3	High	Aver	Aver	High	Te	Aver	Aver	Amou

1663 Abstract of Plaintiff's Exhibits Numbered 61 to 121, Inclusive, Introduced in Connection with the Testimony of Frederick L. Rhodes, a Witness for Plaintiff.

61. Tabular View of License Contract Services.

partments of the General Staff: Department of Development and Research, Engineering Department, Legal Department, Executive Services, and (2) Instrument Services. The Advisory, Consulting, Financial and General Services are rendered by the following de-Department and Treasurer's Department, Accounting Department and Insurance Department. The services rendered by each of A chart showing in tabular form the services furnished to the Associated Companies by the General Staff of the American Telephone and Telegraph Company. These services are divided into two broad classes: (1) Advisory, Consulting, Financial and General these departments are described in considerable detail. They consist of such items as the following:

(a) Development in advance of apparatus and methods needed by the Associated Companies for improvements in their service.

The engineers of the Associated Companies call upon the General Engineering Staff for specific advice and assistance whenever in their opinion they require it. (b) Large amount of work done by the General Engineering Staff in an advisory capacity on specific engineering questions.

(c) Expert advice as to all legal questions arising in connection with the telephone business, based on comprehensive knowledge (d) Use of all patents owned or controlled by the American Telephone and Telegraph Company. The Associated Companies are

(e) Loaning money at ordinary rates of interest, taking stock without discount, and assisting in the sale of securities relieved of all responsibility for claims for infringement and all concern with patent matters of any kind.

(f) Developing and maintaining a uniform accounting system.

The above are but a few of the many services described on the chart.

The Instrument Services consist of furnishing to the Associated Companies all of the transmitters, receivers and induction coils required by the Associated Companies for giving telephone service, and also repairing and maintaining these instruments.

62. Letter of Theodore N. Vail to H. W. Pope, which is as follows:

"Subject, Central Office System.

. H. Forbes, President. Theodore N. Vail, General Manager.

Bradley, President and Treasurer.

The National Bell Telephone Company. No. 95 Milk Street. P. O. Box 3466.

Boston, June 26, 1879.

DEAB SIR:

Before putting in any exchange or starting in or even planning for a Central Office System, I think it would be well for you to we want to do in every case is to adopt the best system, and that we think we have. Then if there is anything better we consult thoroughly with Mr. Watson, and examine minutely into our standard system for Central Office Connections. What Please let me hear from you in regard to this. should of course want to adopt that.

THEO. N. VAIL,

63. Organization Chart, A. T. & T. Co., Dept. of Development and Research, Jan. 1, 1920. H. W. Pope, 699 Bway.

A chart showing the members of this department and their duties. The chart shows that on January 1, 1920, there were 226 employees, of whom about 130 were engineers. The engineers are listed under the broad subjects upon which they are working.

Abstract of Plaintiff's Exhibits Numbered 61 to 121-Continued.

64. Organization Chart, A. T. & T. Co., Engineering Dept., Jan. 1, 1920.

A chart showing the members of this department and their duties. The chart shows that on Jan. 1, 1920 there were 324 cmployees of whom about 150 were engineers. The engineers are listed under the broad subjects upon which they are working.

65. Bulletin on Transmission Equivalents.

A bulletin prepared in 1912 by the General Engineering Staff of the American Telephone and Telegraph Company, with a Supplement and Illustrative Examples prepared in 1914. It gives the transmission equivalents of the types of circuits and of the apparatus most generally used, with an explanation of how they were determined. The complete bulletin consists of 66 pages, of which 43 are illustrative charts and diagrams.

08. Titles of Some of the Circular Letters and Specifications That Have Been Prepared for the Associated Companies.

A list showing the titles of some of the circular letters and specifications that have been prepared by the General Engineering Staff for the use of the Associated Companies. This list consists of 31 pages and contains the titles of nearly 500 circular letters and about 300 specifications.

67. Rubber Cable.

Half-tone print of one of the early types of cables used in the Bell System. This cable was rubber insulated and contained 10 pairs of wires.

68. 1,200 Pairs Cable, Fanned Out.

Half-tone print showing a length of the 1,200 pair, No. 24 Gauge Cable developed by the General Engineering Staff. A portion of the lead sheath has been removed so as to show at one end the manner in which the cable is built up by layers, and at the other end the wires fanned out.

69. 1,200 Pair, Cable Section.

Half-tone print showing three sections of 1,200 pair cable, from one of which the wires have been pushed out.

73. Principal Stages in the Development of Paper-insulated Cable used in the Bell System.

Half-tone print showing sections of 10 full-size paper-insulated cables with the years in which they were developed. During the period 1888 to 1914 the number of wires which could be placed in a full-size cable (about 2½ inches in diameter) was increased from 100 No. 18 Gauge wires to 2,424 No. 24 Gauge wires. 71. A. T. & T. Co. Specifications No. 3012: "General Cable Splicing."

72. A. T. & T. Co. Specifications No. 3913: "Underground Cable Splicing."

73. A. T. & T. Co. Specifications No. 3914: "Aerial Cable Splicing."

74. A. T. & T. Co. Specifications No. 3915: "Block Cable Splicing."

75. A. T. & T. Co. Specifications No. 3916: "House Cable Splicing."

Companies in the years 1917 and 1918. They cover in great detail the methods and materials to be used in splicing the different types of cables. They consist of more than 200 pages and contain a great number of drawings illustrating the various methods Exhibits 71 to 75 inclusive are a series of handbooks prepared by the General Engineering Staff and sent to the Associated

76. Boston-Washington Type Duplex Cable.

Half-tone print showing a section of the Duplex Cable developed by the General Engineering Staff for use in the toll and long distance lines of the Bell System.

77. Cable Londing Coil and Section, Wire Core Type.

Half-tone print showing a cable loading coil and a section of the same. This loading coil is of the wire core type.

78. Wire Core for Cable Loading Coil and Sample of No. 38 B. & S. Gauge Core Wire Before Insulation Has Been Put On.

Half-tone print showing the wire core for the cable loading coil in Exhibit No. 77, and a spool of the bare No. 38 B. & S. gauge core wire. The wire core contains approximately 69,000 turns of wire and weighs 2.6 pounds. The insulation consists of an enamel film with which the wires are coated.

79. Iron Dust Core for Cable Loading Coil and One of the Core Rings.

Photograph of a new type of cable loading coil core developed recently by the General Engineering Staff. It consists of a number of rings bound together with cloth tage. These rings are not of solid iron but are composed of a very great number of small insulated particles of iron, pressed together by hydraulic pressure.

30. Oscillograph Records Showing Changes in Telephone Currents. Photo Follows Exhibit #121.

Half-tone print showing changes in the electrical current when different words are spoken into the telephone

Abstract of Plaintiff's Exhibits Numbered 61 to 121—Continued.

81. Repeater Bulb and Socket.

Half-tone print showing a repeater buil and socket complete, and the builb and socket separately.

82. Line and Cut-off Relay, Old Type.

Half-tone print showing two views of a combined line and cut-off relay of the old type.

83. Line Relay and Cut-off Relay, New Type.

Half-tone print showing two views of new types of line relays and cut-off relays developed by the General Engineering Staff.

202

A. T. & T. Co. Specifications No. 3851: "Substation Apparatus."
 A. T. & T. Co. Specifications No. 3852: "Substation Apparatus Installations."

86. A. T. & T. Co. Specifications No. 3853: "Substation Wiring."

87. A. T. & T. Co. Specifications No. 3854: "Substation Connections."

88. A. T. & T. Co. Specifications No. 3855: "Adjustment of Substation Apparatus."

89. A. T. & T. Co. Specifications No. 3856: "Substation Sign Installation."

90, A. T. & T. Co. Specifications No. 3857; "No. 50 Coin Collector Installation."

clated Companies in the year 1917. They cover in great detail the equipment and methods to be used in installing the various types Exhibits numbered 84 to 90 inclusive are a series of handbooks prepared by the General Engineering Staff and sent to the Asso-There are nearly 200 pages, with a large number of illustrative drawings. of substation apparatus.

91. A. T. & T. Co. Specifications No. 3613; "Underground Conduit Construction."

A handbook prepared by the General Engineering Staff and sent to the Associated Companies in the year 1913. It covers in great detail, with numerous drawings, the materials and methods to be used in installing underground conduits. There are 72 pages. 92. A. T. & T. Co. Specifications No. 3930; "Drop Wiring."

A handbook prepared by the General Engineering Staff and sent to the Associated Companies in the year 1918. It covers the materials and methods to be used in drop wiring. There are \$2 pages, with a large number of drawings.

93. A. T. & T. Co. Specifications No. 4632: "Underground Cable Placing."

94. A. T. & T. Co. Specifications No. 3929: "Aerial Cable Construction." 95. A. T. & T. Co. Specifications No. 3933: "House Cable Placing."

96. A. T. & T. Co. Specifications No. 3931: "Block Cable Construction."

Companies in the year- 1918 and 1919. They cover in great detail, with numerous drawings, the materials and methods to be Exhibits 93 to 96 inclusive are copies of handbooks prepared by the General Engineering Staff and sent to the Associated used in placing underground, aerial, house and block cables. There are 300 pages

97. A. T. & T. Co. Specifications No. 4918: "First Aid."

It This is a 16 page handbook prepared by the General Engineering Staff and sent to the Associated Companies in 1919. describes the proper kind of treatment to be administered for various kinds of accidents.

98. A. T. & T. Co. Specifications No. 3921: "Construction of Feed Pole Lines used Jointly for Supply Circuits and Signal Circuits."

describes in great detail, with several full page illustrative drawings, what are considered the proper methods to be used in con-This is a large specification prepared by the General Engineering Staff and sent to the Associated Companies in 1917. structing pole lines for joint use with supply circuits and signal circuits. There are 25 pages.

99, A. T. & T. Co. Specifications No. 3882; "Main Frame Protection, 'A' Type Frames."

100. A. T. & T. Co. Specifications No. 3881; "Main Frame Protection, 'B' Type Frames."

101. A. T. & T. Co. Specifications No. 3850: "Substation Protector Installation."

102. A. T. & T. Co Specifications No. 3918; "Substation Protection, Including Private Branch Exchanges."

Staff and sent to the Associated Companies in the year 1917. There are 70 pages covering the proper type, location and method of Exhibits 99 to 102 inclusive are copies of handbooks on the subject of protection which were prepared by the General Engueering installing protectors at central offices and substations. There are numerous illustrations.

03. Some Cases of Work on Hand.

A list showing, by title only, some of the cases of work which the General Engineering Staff has on hand. About 150 subjects are listed, covering plant matters only. Abstract of Plaintiff's Exhibits Numbered 61 to 12f-Continued.

104. Some Cases of Work Completed

About 300 A list showing, by title only, some of the cases of work which has been completed by the General Engineering Staff. subjects are listed, covering plant matters only.

105. List of Unexpired Patents Owned or Controlled by the American Telephone and Telegraph Co., as of October 1, 1919.

A list showing for each of the patents owned or controlled by the American Telephone and Telegraph Company, or under which the American Telephone and Telegraph Co. holds a license, the number of the patent, date of issue, name of the inventor, and subject of the patent. On October 1, 1919, there were 3,486 such patents, covering the apparatus and methods now used by the Bell System, and also the apparatus and methods which the General Engineering Staff may need to use in future development.

106. Blake Transmitter.

Half-tone print showing two views, open and shut, of the Blake Transmitter.

107. Transmitter No. 239.

Half-tone print showing two views, one complete and one with the head removed, of the No. 239 solid back wall set.

108. Common Battery Bracket Transmitter No. 242.

Half-tone print showing two views, one complete and one with the head open, of the No. 242 common battery bracket transmitter.

109. Common Battery Bracket Transmitter No. 250.

Half-tone print showing two views, one complete and one with the head open, of the No. 250 common battery transmitter.

One of the views shows the head open. 110. Transmitter No. 229.

Half-tone print showing three views of the No. 229 transmitter.

111. Transmitter No. 329.

One of the views shows the head open. Half-tone print showing three views of the No. 329 transmitter. 112. Transmitter No. 323.

Haif-tone print showing three views of the No. 323 transmitter. One of the views shows the head open.

113. No. 20, Induction Coil.

Half-tone print showing the No. 20 induction coil developed by the General Engineering Staff.

114. Cross Section, No. 229 Transmitter.

114. Cross Section, No. 229 Transmit

115. Types of Transmitters That Have Been Standard in the Bell System, But Are Now Obsolete. Half-tone print showing a cross section of the No. 229 transmitter.

Large half-tone print showing 66 different transmitters that have been standard in the Bell System, but which are now

116. Receiver No. 101.

Half-tone print showing the No. 101 receiver.

117. Receiver No. 122 (One-piece and Two-piece Case).

Half-tone print showing two models of the No. 122 receiver developed by the General Engineering Staff.

118. Cross Section, No. 122 Receiver.

Half-tone print showing a cross section of the No. 122 receiver.

119. Receiver No. 144.

Half-tone print showing the No. 144, unit type, receiver developed by the General Engineering Staff.

120. Types of Receivers That Have Been Standard in the Bell System, But Are Now Obsolete.

Large half-tone print showing 48 different receivers that have been standard in the Bell System, but are now obsolete.

121. What it Would Cost Southwestern Telegraph and Telephone Company in State of Texas to Provide Its Own Instruments.

			\$.950						.080.
986 986	906	1.06					8% 1% 2%	11%	
(1) First Cost: Set of instruments \$4.50. (2) Annual cost per set of instruments: (3) 8% Return on Investment. (4) 8% Reserve for Replacement. (5) Repairs	Sub-total \$.906		Annual cost per station (except Stock of Instruments to cusure continuity of Supply) \$.905 x 1.05 \$.950	Stock of Instruments to ensure continuity of supply:	Proportion of instruments in stock—6%.	Annual cost of carrying this stock:	Return on Investment Cost of Administration Insurance and Contingencies 2%		115% of \$.27
*	(8)	(6)	(10)	(11)	(13)	(14)	(15)	(18)	(8)

1602 Abstract of Plaintiff's Exhibits Numbered 122 to 135, Inclusive, Filed in Connection With Testimony of R. F. Estabrook, a Witness for Plaintiff.

Ехнівіт 122.

Photograph No. 1 Common Battery Relay Switchboard, "A" Board.

This exhibit is a photograph of one of the types of standard switch-board equipment employed in central offices throughout the South-western territory in the State of Texas and in the City of Houston. The photograph shows the face of such type of switchboard, the details of which include the subscribers' multiple of 8,000 lines, the outgoing trunk multiple, the answering jacks and lamps and 'the operators' position equipment, including cords, cord supervisory signals, cord keye, etc.

Ехнівіт 123.

Photograph Incoming Trunk Switchboard, "B" Board.

This exhibit shows the face of the kind of "B" board equipment installed in connection with the "A" switchboard equipment illustrated in Exhibit 122. The photograph shows the subscribers' multiple of 10,500 lines, the incoming trunk cords, trunk signals, trunk ringing keys, etc., which comprise each "B" operator's position equipment.

Ехнівіт 124.

Diagram of a Local Multiple Connection.

This diagram is an excerpt from the Standard Local Operating Text Book, Traffic Circular No. 113, provided by the American Company to the Associated Companies. It is a schematic drawing to illustrate a connection through the local subscribers' multiple between calling and called telephones both connected with the same "A" switchboard.

1603

Ехнівіт 125,

Diagram of Call Circuit Trunk Connection.

This diagram is an excerpt from the Standard Local Operating Text Book, Traffic Circular No. 113, provided by the American Company to the Associated Companies. It is a schematic drawing to illustrate a connection between calling and called telephones when they are subscribers to different central offices and the completion of the call involves connection at an "A" position between a calling telephone and a call circuit trunk and at a "B" position between the same call circuit trunk and the called telephone line in the "B" multiple.

Ехнівіт 126.

Photograph Back of an "A" Switchboard.

This exhibit shows the apparatus and wiring on an "A" board section viewed from the back of the switchboard. The principal features shown are the switchboard cabling containing the multiple of subscribers' lines, the switchboard cabling containing the multiple of the outgoing trunk circuits, the shelf on which the fixed ends of the flexible "A" cords are connected at terminals to the cord circuit cables, the blocks of supervisory relays and resistances controlling the cord circuits, and at the bottom, the cables extending the subscribers' lines from the intermediate distributing frame to the answering jacks and lamps.

Ехнівіт 127.

Drawing of an "A" Position.

This exhibit is a diagram showing in more detail the principal items of equipment provided on a typical "A" position, each portion of the equipment being marked with its proper name or description.

Exhibits 122 to 127 were used by the witness in explaining the technical aspects of the switchboard equipment which is designed by the General Engineering Staff for the use of the Associated Companies.

1604

Ехнівіт 128.

No. 1-D Switchboard Equipment.

This exhibit consists of a bound copy of General Engineering Circular No. 787, issued by the Engineering Department of the A. T. & T. Company and comprising a general description of this type of board, a detailed description of all the component circuits, apparatus, racks, frames and power equipment with the complete information required for engineering and planning an installation of this equipment. In Section 11, page 28, are given the numbers and titles of twelve other general engineering circulars, the information in which is also referred to in connection with the engineering of this type of equipment. The circular consists of about 57 pages of typewritten matter and 145 pages of drawings of circuits and equipment.

Ехнівіт 129.

Standard Traffic Engineering Practices.

This exhibit consists of a copy of General Engineering Circular No. 644, issued by the Engineering Department of the A. T. & T. Company. It comprises about 92 pages of printed matter, tables,

charts, diagrams, etc., and describes engineering practices recommended for use in engineering local and toll central office equipments. It furnishes information as to the engineering studies and estimates on which switchboard requirements are based, descriptions of the various types of switchboards and the conditions for which each type is adapted, tables and other information for determining the quantities and most economical arrangement of equipment, and recommends the traffic engineering records and form of traffic study that are needed for proper engineering of switchboard requirements by an Associated Company.

1605

Ехнівіт 130.

Local Operating Practice.

This exhibit consists of copies of Traffic Circular No. 73 and supplements, which together constitute the standard local operating practices, prepared and issued to the Associated Companies by the Engineering Department of the American Company for the guidance of the central office operating forces. It consists of about 520 pages of printed matter issued in loose-leaf form at various dates and contains complete information for the guidance of "A" operators, "B" operators, toll switching operators, tandem operators, ringdown operators, multiple marking operators, trouble operators, information operators, rural operators and the supervisory forces who direct the work of these operating forces.

Ехнівіт 131.

Local Operating Text Book.

This exhibit consists of 140 printed pages issued as Traffic Circular No. 113 by the Engineering Department of the A. T. & T. Company. It provides information designed for the instruction of new employees of the Associated Companies who are to be trained for the operating of the local switchboards. The information is set up in the form of a series of lessons illustrated by diagrams of the equipment and arrangements.

Ехнівіт 132.

Traffic Records.

This exhibit consists of copies of Traffic Circulars No. 26, 22 pages, No. 27, 13 pages, No. 28, 12 pages, No. 29, 12 pages, and No. 77, 11 pages, issued by the Engineering Department of the American Company, all together comprising 72 pages of printed matter, which provides the Associated Companies with information as to the methods and forms to be employed in keeping records of the local and toll traffic which they handle and for equating the

volumes of traffic of different classes to a common traffic unit and for working these traffic records up into the form most

significant and useful for purposes of engineering and efficient administration.

Ехнівіт 133.

Operating Labor Costs.

This exhibit consists of a copy of a circular letter from Hammon V. Hayes, Chief Engineer of the American Company, to the Chie Engineers or other officials of all of the Associated Companies, date January 18, 1907, accompanied by 10 charts, all constituting recommendations and information as to improved methods to be use in determining the forces required to operate switchboards are stating that employment of these methods would result in saving to the Associated Companies which might equal nearly a million dollars a year in their operating costs.

Ехнівіт 134.

Adjustment of Force.

This exhibit consists of a copy of Traffic Circular No. 117, issued by the Engineering Department of the A. T. & T. Company and comprising 59 pages of printed matter, charts and tables describing methods that will result in the most satisfactory and economical determinations of the sizes of the forces required to operate local and toll switchboards and the arrangements of their hours of work which are most convenient to the employees and result in most satisfactory service and economical utilization of the employees' times

Ехнівіт 135.

Standard Toll Operating Methods.

This exhibit consists of copies of Traffic Circular No. 57 and supplementary circulars, comprising 115 pages of printed matter, anywhich constitute a description of the most efficient and economic methods to be employed in handling the toll traffic of the Associate Companies and operating their switchboards.

1607 Plaintiff's Exhibits Nos. 136-140, Inclusive.

H. Blair-Smith, Witness.

No. 136. Organization Chart—American Telephone and Telegrap Company.

This exhibit shows, in graphic form, the organizaton of the American Telephone and Telegraph Company. It gives the names of the officers and shows the lines of responsibility.

No. 137. Accounting Circular No. 8, Standard Telephone Accounts—Bell Telephone System—Effective January 1, 1913.

This exhibit consists of the accounting rules and classifications prescribed for Telephone Companies by the Interstate Commerce Commission in the Uniform System of Accounts for Telephone Companies, First Issue, effective January 1, 1913, together with modifications and amplifications. The exhibit contains a classification of all accounts by number codes and a description of what is covered by each account prescribed.

No. 138. Accounting Circular No. 12, Questions and Answers—(Interpretation and Rulings Relating to Standard Telephone Accounts)—Bell Telephone System—Effective July 1, 1916.

This exhibit states, in question and answer form, the interpretations and rulings issued by The Interstate Commerce Commission in its "Accounting Bulletin No. 11: Interpretations of Accounting Classifications embodied in the Uniform System of Accounts for Telephone Companies" effective July 1, 1916. It contains an index arranged numerically by account numbers and an index arranged alphabetically by subject, or account names, both of which refer to the particularly numbered question and answer to be referred to for correct classification.

No. 139. Accounting Bulletin 108-A, Standard Occupational Classification of Telephone Employees—Bell Telephone System—September 1, 1917.

This exhibit gives in Section I, pages 2 and 5, the rules and main occupational classes prescribed by The Interstate Commerce Commission, effective July 1, 1917. It also includes in Section II, pages 6 and 38, sub-classes of the main classes which have been prescribed for use by the Bell System.

No. 140. Circular of Harris Forbes & Company, of New York, Giving Data as to 7% First Mortgage Gold Bonds to the Amount of \$900,000.00 Issued by The Houston Gas Company.

1610 PLAINTIFF'S EXHIBITS Nos. 141 TO 145, INCLUSIVE.

E. V. Cox, Witness.

No. 141.

This Exhibit is a blank form of standard contract between the Western Electric Company and the Associated Companies, stating the terms according to which the Western Electric Company acts as manufacturing and supply agent of the Associated Companies.

The Exhibit is as follows:

This agreement, made this — day of ——, A. D., 19—, by and between Western Electric Company, a corporation organized and existing under the laws of the State of New York, party of the first part, hereinafter called the Electric Company, and ——, a corporation organized and existing under the laws of the State of —, party of the second part, hereinafter called the Telephone Company.

Witnesseth, That the said parties, for value received and in consideration of the agreements herein contained, do hereby, for themselves, their successors and assigns, covenant and agree as follows:

1611 Scope.

1. The Telephone Company hereby employs the Electric Company as its agent to procure for it all the articles which it may require for its own use, except those which are named or described in Appendix "A" hereto (which may hereafter be altered from time to time by mutual consent), and hereby agrees to procure all such articles through the Electric Company; provided, however, that nothing herein contained shall be construed as requiring the Telephone Company to purchase, or use any article, or articles manufactured or sold by the Electric Company unless it shall desire to do so.

Services.

2. The Electric Company agrees to procure by manufacture, purchase or otherwise from such sources and to deliver at its store rooms to such persons, in such quantities, in such a manner and at such times, as the Telephone Company may reasonably designate, any apparatus, supplies or material which the Telephone Company may reasonably require, and agrees that the store rooms established at such places as may be mutually agreed upon shall not be discontinued or moved to another city except by the consent of the Telephone Company, or on one year's notice in writing by the Electric Company.

The Electric Company shall not be required to deliver any apparatus, supplies, or material, or to buy any unusual large 1612 quantities of supplies or material, or to manufacture any special apparatus, except on the Telephone Company's written requisition, and the Telephone Company agrees to take within one year all the apparatus, supplies or material so bought or manufactured; or failing so to do, to thereupon reimburse the Electric Company for all actual loss sustained by it on account of such failure.

Remuneration.

- 3. The Telephone Company agrees to remunerate the Electric Company as follows:
- (a) For furnishing telephonic appliances manufactured under exclusive license from The American Bell Telephone Company, and

delivered at its warerooms, standard prices, uniform to all licensees of The American Bell Telephone Company.

(b) For furnishing underground, aerial and submarine cable manufactured by the Electric Company:

If shipped direct from factory, factory cost of such cable, plus

eight per centum (8%) at factory; or

If shipped from local storeroom, full reels, factory cost, plus ten per centum (10%), plus transportation charges to storerooms; less than full reels, factory cost, plus fifteen per centum (15%), plus transportation charges to store rooms. Actual loss on short lengths

of cable, caused by the Telephone Company's orders for 1613 less than full reels, shall be borne by the Telephone Com-

Factory cost shall include only the cost of productive labor, the cost to Electric Company of materials on the date order is received ly Electric Company, and the proper share of such expenses as are necessarily incurred for the purpose of manufacturing cable.

(c) For furnishing other manufacturers of the Electric Company: Prices as low as the Electric Company's prices to its most favored customers in the United States.

(d) For furnishing articles not made by the Electric Company, excluding hard-drawn copper wire:

If shipped from any storeroom of the Electric Company, cost to

the Electric Company, plus six per centum (6%); or

If shipped from any other point direct to Telephone Company, cost to the Electric Company, plus four per centum (4%).

(e) For furnishing hard-drawn copper wire:

If shipped from any storeroom of the Electric Company, cost to

the Electric Company, plus five per centum (5%); or

If shipped from any other point direct to the Telephone Company, cost to the Electric Company, plus one per centum (1%).

The term "Cost" as used in paragraphs (d) and (e) of 1614 this section means the net price which the Electric Company is obligated to pay the supplier after all rebates, discounts and commissions have been deducted. When transportation charges, in whole or in part, are treated by the supplier as a part of his net price to the Electric Company, they shall be included in "cost" as All other transportation charges, except cartage to herein defined. the Electric Company's storerooms on articles not made by the Electric Company, shall be charged the Telephone Company, but without the addition of the aforesaid percentages. Cartage charges to the Electric Company's storerooms shall be borne by the Electric Company.

Special Services.

4. The Electric Company further agrees, at the option of the Telephone Company, to undertake and perform, with due care and diligence, any or all of the following described special services (none of which is included in the undertakings of the Electric Company, as described in Section 2), for such remuneration as may be mutually agreed upon from time to time:

- (a) Receiving, storing and reissuing or disposing of any used apparatus, supplies and material returned by the Telephone Company.
- (b) Carrying any special stock of any articles which the Telephone Company may prescribe from time to time.
- 1615 (c) Receiving, storing and reissuing or disposing of furniture or fixtures, tools and construction outfits.
 - (d) Operating a local repair and emergency shop.
- (e) Receiving, storing and delivering telephones and transmitters.
 - (f) Mounting telephones and transmitters.
 - (g) Inspection of articles not made by the Electric Company.
 - (h) Cartage, except to the Electric Company's storerooms.
- (i) Prepayment of transportation charges on shipments to the Telephone Company, and taking up and adjusting claims with carriers.
- (j) Any special accounting or clerical work not ordinarily required of a Purchasing Agent.
- (k) Any other services not hereinbefore in this contract described.

Payment.

5. The Electric Company shall render a monthly statement of account, which shall be due and payable thirty (30) days after the date of its delivery to the Telephone Company.

If the Electric Company consents to deferred payment, any portion of said account not paid when due, shall thereafter bear in-

terest at a reasonable rate.

1616 If payment is deferred without its consent, the Electric Company may, on reasonable notice, suspend or terminate its obligations hereunder.

Defective Material.

6. The Electric Company shall be liable under this contract only for direct damages arising from failure to exercise reasonable care and diligence in performing its obligations hereunder; and, in addition, as to any articles manufactured by the Electric Company, or specially inspected by it under Section 4 (g) above, which prove to be defective, the Electric Company shall be obligated either to replace the same at its own expense or to take back and allow full credit therefor.

Articles to be replaced F. O. B. factory or destination in accord-

ance with delivery terms of the original shipment.

Arbitration.

7. Any question arising under this contract shall be referred for decision at the option of either party to such person or persons as the Presidents of the two Companies, parties hereto, may agree upon, and the decision of such person or persons or of a majority thereof shall be final and binding upon the parties hereto.

Delays.

8. Whereas, the due prosecution of the business of the 1617 Telephone Company requires that its apparatus, supplies and material shall be promptly furnished and as herein provided; and whereas, the time required to ascertain judicially whether the Electric Company shall or shall not have failed to perform its obligations hereunder might cause a delay which would work damage to the Telephone Company, it is agreed that whenever the President of the Telephone Company shall be of the opinion that the Electric Company has failed or is likely to fail in its obligations in this respect, the Telephone Company may, without notice or demand, purchase elsewhere such apparatus, supplies and material as in its opinion may be required to meet the emergency, and it shall thereafter be determined by arbitration, as above provided, whether or not the opinion so acted upon by the Telephone Company was erroneous, and what, if any, damage resulted to either the Telephone Company or the Electric Company; and it is hereby agreed that any assessment for damages which said arbitrator or arbitrators may make in the premises shall be accepted and paid by the party so assessed as a just obligation.

Duration.

9. This contract shall become operative — —, ——, and shall remain in force thereafter until terminated by mutual agreement or by one year's notice in writing from either party to the other, or by the termination of the license from The American Bell

1618 Telephone Company to the Telephone Company or to the

Electric Company.

In witness whereof, The parties hereto have caused these presents to be signed in their behalf by their respective officers thereunto duly authorized, and their corporate seal to be hereunto affixed the

y and year	first above written.			
	WESTERN	ELECTRIC	COMPANY,	INC.,
	By,		,	,
Attest:				
-	, Secretary.			
	By	President.		-
Attest.			-	

53-219

-. Secretary.

No. 142.

This Exhibit contains copies of letters covering the Agreement between the Western Electric Company and The Southwestern Telegraph and Telephone Company with respect to the manufacture and purchase of supplies by the Western Electric Company.

The Exhibit is as follows:

1619 Copies of Letters Covering the Contract Relations Between the Southwestern Telegraph and Telephone Company and the Western Electric Company, Inc., for the State of Texas.

January 10, 1920.

1620	Index.			
Page.	Subject.	D	ate.	
1-2.	Stocks in Warehouse	Aug.	1,	1913.
3-6.	Handling Returned Material			
7.	Repair and Emergency Shop	Aug.	1,	1913.
8-9.	Lead Covered Cable			
10.	Prepaying Transportation Charges	Aug.	1,	1913.
11.	Trucking Outgoing Material			
12.	Handling A. B. Transmitters and Receivers			
13.	Handling Stationery and Office Supplies	May	1,	1918.
14-34.	Inspection Charges	June	1,	1919.
35.	Purchasing Poles			

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

DEAR SIR:

1621

This letter is to outline the conditions under which, beginning August 1, 1913, we (hereinafter referred to as the Electric Company) will carry stocks in our warehouse to meet the requirements of your Company (hereinafter referred to as the Telephone Company).

Classification and Responsibility.

All stocks may be considered as coming under one of the following three classifications:

(1) Apparatus or material which is considered standard to the Telephone Company and standard to the Electric Company (i e., Western Electric Company apparatus manufactured under license from the American Bell Telephone Company, or approved by the American Telephone & Telegraph Company, and material of not Western Electric manufacture which is commercially standard).

The Electric Company will assume all responsibility for the maintenance of stocks of this class of material in reasonable quantities. The Telephone Company's estimates of the future requirements will neither constitute an authorization by it, nor an obligation on the Electric Company's part to purchase more than, in the latter's opinion, is a reasonable stock.

(2) Material which is standard to the Telephone Company but special to the Electric Company (i. e., Apparatus or material manufactured under the Telephone Company's own specifications, which is used regularly by the Telephone Company, but not in general

use by other customers).

The Electric Company will stock material of this class in reasonable quantities without written authority for each purchase, but if the use of such material is abandoned, the Telephone Company will at the end of a reasonable period (within 60 days) relieve the Electric Company of the stock or reimburse it for any loss sustained in otherwise disposing of any reasonable quantity which it may have in its warehouse or for which it may have contracted.

(3) Material special to the Telephone Company and special to

the Electric Company.

The Electric Company will purchase material of this class only upon the Telephone Company's written requisition. Such 1623 material shall be taken by the Telephone Company within a reasonable time (30 days) after they have been notified that it is subject to their order. If not, it shall thereafter be carried as "unusual Special" stock and be subject to the charges for carrying such stocks.

Reasonable Stock.

A reasonable stock represents the Telephone Company's average requirements based upon the usage for ordinary construction and maintenance during the preceding six months, together with proper consideration for seasonal demands, condition of the market and length of time required to transport material from the main sources of supply to the Electric Company's warehouse.

Unusual and Storm Stocks.

The purchase of quantities of Class-"I" and "2" stock in excess of a reasonable stock, whether in anticipation of prospective future development, to secure favorable prices, or as protection against possible emergencies, such as fires or storms, shall be made only upon the specific written authorization of the Telephone Company, and shall be subject to the charges for carrying such stocks.

Service.

The Electric Company agrees to purchase and carry, in addition to the reasonable stocks regularly provided, such special stocks as the Telephone Company may authorize, or as may accumulate, upon the following terms:

Classification.

Quantities of material coming under Classes "I" and "2," in excess of a reasonable stock, are termed "Special Stocks" and are of two kinds:

- (1) "Unusual Stocks"—Quantities in excess of a reasonable stock, authorized by the Telephone Company for a special reason, such as to secure a favorable price, in anticipation of prospective future development, or as protection against storms.
- (2) "Emergency Stock"—Central Office Equipment, authorized by the Telephone Company to be held indefinitely for emergency purposes. Such "Special Stocks" will be carried by the Western Electric Company in such quantities and for such time as the Telephone Company may authorize.

Remuneration.

For carrying "Special Stocks" as described above, the Electric Company will charge the Telephone Company monthly at the rate of 8% per annum of the average investment in this class of material.

This charge to begin 30 days after the material is received and to continue until, upon the Telephone Company's authorization, the Electric Company takes it, in reasonable quantities, into its general stock, or otherwise disposes of it.

Yours truly,

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH,

June 1, 1919.

Returned Material.

E. F. Carter, General Manager, Southwestern Telegraph & Telephone Co., Dallas, Texas.

DEAR SIR:

This letter is to outline the conditions under which, beginning June 1, 1919, we (hereinafter referred to as the Electric Company) will handle returned material for your Company (hereinafter referred to as the Telephone Company).

1. Service.

(1.1) The Electric Company agrees to receive, store and reissue or dispose of apparatus or material returned by the Telephone 1626 Company in the following manner:

2. Delivery to Warehouse.

(2.1) All transportation and cartage charges applying on material returned to the Electric Company's warehouses, sub-warehouses or other points designated by the Electric Company, are to be borne by the Telephone Company.

3. Inspection and Classification.

- (3.1) When received, the Electric Company will divide material into the following classes, based on such visual inspection as can be given by experienced warehouse employees, such classification to be subject to the approval of the Telephone Company.
- (3.2) No other inspection is contemplated in the rates or remuneration specified in Section 6 of this Agreement.

Class "A."

- (3.3) Telephonic appliances of Western Electric manufacture which the Telephone Company will not require within a reasonable time.
- (3.4) Large lots of Class "A" material may be returned by the Telephone Company direct from the field to Hawthorne.
- (3.5) Preliminary credit for such apparatus may be given at the Electric Company's allowance prices, and after it has been delivered to a space set aside for this class of material, the Telephone Company shall have no further responsibility. Final credit for this class of material cannot be issued until the material has been shipped to Hawthorne and their report of classification received; if a preliminary credit is issued by the local house, it shall be subject to adjustment to agree with the final report from Hawthorne.

Class "B."

- (3.6) Material which is of no value except as junk.
- (3.7) Space shall be provided for this material where it shall be kept until a sufficient quantity has accumulated to warrant disposition, when it will be sold and an adjustment made with the Telephone Company of the difference between the amount credited by the Electric Company and the actual proceeds of the sale.
- (3.8) Large lots of Class "B" material may be returned by the Telephone Company direct from the field to the purchaser, as directed by the Electric Company.
- (3.9) Class "B" material shall be credited when received at the current market price of junk of corresponding kinds. When it is sold an adjustment shall be made with the Telephone Company

for the difference between the amount credited by the Elec-1628 tric Company and the actual net proceeds of the sale.

Class "C."

(3.10) Apparatus and material of active types for which there is a probable demand within a reasonable time.

Class "D."

(3.11) All switchboard cords and plugs returned to the Electric Company for stock, repairs to be made if necessary.

Class- "C" and "D."

- (3.12) Material of these classes shall be credited to the Telephone Company at the price of corresponding new material, and will be re-issued to the Telephone Company at the price allowed on the credit.
- (3.13) If material so credited is not drawn from the Electric Company's warehouse within one year from the date of credit, it shall be subject to a carrying charge until it has been shipped to the Telephone Company or otherwise disposed of as authorized by the Telephone Company, the responsibility for the ultimate use or disposition of such material being with the Telephone Company.

4. Repairs.

(4.1) Necessary repairs to Class- "C" and "D" material shall be made under the terms of a supplementary agreement covering Section 4*D, and the cost of repairs shall be charged to the Telephone Company separately.

5. Insurance.

- (5.1) For insurance purposes, Class "C" and "D" material in the Electric Company's warehouse shall be valued at 50% of the current new value of similar material, and the Electric Company shall insure on the basis of 80% of this valuation.
- (5.2) In case of loss by fire, the Telephone Company shall reimburse the Electric Company in an amount equal to the difference between such insurance as the Electric Company may be able to collect on the Class "B," "C" and "D" material so lost and the amount credited to the Telephone Company by the Electric Company for such material.

6. Remuneration.

- (6.1) For performing the services described in the foregoing, the Electric Company will charge the Telephone Company monthly, as follows:
 - (6.2) Class A: For receiving, classifying, delivering to proper space in the warehouse, crediting and keeping the records.
- 1% of the value of all Class A material received at the warehouse and credited during the month.

1630

- (6.3) Class B: For receiving, classifying, crediting, keeping records, storing, selling and handling from the time it is received in the warehouse until it has been disposed of.
- 2½% of the selling price of Class B material sold from the warehouse during the month.
- (6.4) Class C: For receiving, classifying, issuing credit, keeping records, storing for a period not to exceed one year and reissuing or disposing of.
- 7% of the value of all material credited as Class "C" during the month.
- (6.5) Class D: For receiving, storing for a period not exceeding one year, and relssuing or disposing of.
- 2% of the value of all material credited as Class "D" during the month.
- (6.6) Direct Shipment: For keeping records and issuing credit for all classes of material which are returned direct from the Telephone Company to Hawthorne, or other purchaser.
- 1/2% of 1% of the value of such material credited during the month.
- (6.7) Carrying Charge: For carrying
 Class "C" and "D" material after it has been
 in the possession of the
 Electric Company for 1
 year.
- 8% per annum of the average monthly investment in such material.

7. Payments.

(7.1) Payments for the credits allowed the Telephone Company are to be made by the Electric Company on the terms under which its invoices are rendered.

8. Termination.

This Agreement may be altered by mutual agreement or terminated upon three months' notice in writing from either party to the other.

WESTERN ELECTRIC COMPANY, INC., (Signed) By R. W. VAN VALKENBURGH.

June 1, 1919.

Exceptions to Preceding Letter.

Paragraph 3.5.

For the convenience of both Companies and to simplify the accounting in connection with Class "A" material, no credit shall be issued until final report of allowance is received from Hawthorne.

Paragraph 3.9.

Credit shall not be issued for Class "B" material until it is finally disposed of, thus avoiding the necessity of a preliminary credit and a subsequent adjustment.

Paragraph 3.11.

Due to the fact that but few cords and plugs are returned and that the total value is not sufficient to warrant a separate classification, all cords and plugs shall be classified "C."

1632

Paragraph 6.5.

The provisions of this paragraph shall not become effective for the reason that cords and plugs shall be considered Class "C," as indicated in Paragraph 3.9 above.

WESTERN ELECTRIC COMPANY, INC., (Signed) By R. W. VAN VALKENBURGH.

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

DEAR SIR:

This letter is to outline the conditions under which, beginning August 1, 1913, we (hereinafter referred to as the Electric Company) will operate a local repair and emergency shop and recovery department for work required by your Company (hereinafter referred to as the Telephone Company).

Service.

The Electric Company agrees to operate Local Repair Shops on the following basis:

Repair and Emergency Shops.

A shop equipped to do the ordinary class of repairs to apparatus and material and to perform such emergency service as is required by the Telephone Company.

Recovery Shop.

A small department containing no machinery, but equipped to make minor or rub-up repairs to apparatus. All employees to be productive laborers, and the total output to be charged monthly without any detailed cost of the types of apparatus repaired.

Remuneration.

Repair and Emergency Shops.

So far as possible, standard repairs will be charged as agreed on flat prices, representing the Electric Company's cost; these prices to hold good until changes in costs of material and labor make a revision necessary. For any work not covered by standard prices, the Electric Company will charge actual cost of productive labor, plus 30% loading to cover shop expense, and material at prices usually charged your Company.

Recovery Shop.

The Electric Company will charge the Telephone Company monthly its actual cost of labor, plus 15% loading to cover department expenses and supervision expense, and material at prices usually charged your Company.

1634 Yours truly,

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH.

October 1, 1918.

A. B. Elias, General Manager, Southwestern Telegraph & Telephone Co., Dallas, Texas.

DEAR SIR:

This letter is to outline the conditions under which, beginning October 1, 1918, we (hereinafter referred to as the Electric Company) will warehouse and distribute lead covered cable for your Company (hereinafter referred to as the Telephone Company).

1. Service.

General.

- (1.1) The Electric Company agrees to carry a reasonable stock of new lead covered cable for ordinary construction and maintenance purposes, and such second hand cable as the Telephone Company may return, on the following terms:
- (1,2) Actual loss on short lengths of new or returned cable caused by the Telephone Company's orders for less than full reels shall be borne by the Telephone Company.
- (1.3) Empty reels and lags may be returned to the Electric Company's warehouse or direct from the Telephone Company to the Electric Company's factory at Hawthorne.

New Cable.

(1.4) Instead of billing new cable shipped from local warehouse stock at 10% and 15% above factory cost, the Electric Company will bill all new cable shipped from its warehouses at the direct shipment rate of 8% above factory cost, plus transportation charges from the factory and cartage charges to the Electric Company's warehouse.

Emergency Stock of Cable.

(1.5) Stocks of cable authorized by the Telephone Company to be held for emergency purposes or unusual stocks, shall be carried under the terms of the 4 (b) supplementary agreement.

Returned Cable.

- (1.6) Cable fit for re-use returned by the Telephone Company shall be placed in stock and credit given the Telephone Company at current prices of new cable of corresponding type. It shall be billed the Telephone Company when shipped at the price credited.
- (1.7) Returned cable which has been on hand for one year shall be subject to a carrying charge until it has been shipped to, or otherwise disposed of, by the Telephone Company.

2. Remuneration.

- (2.1) For performing the services described in Section 1, the Electric Company will charge the Telephone Company as follows:
- (2.2) 3% of the billing price of all new and returned cable shipped from warehouse stock, including emergency and unusual stocks and including the value of reels and lags.

- (2.3) 3% of the credit price of cable returned to the warehouse, including the value of reels and lags.
- (2.4) For carrying returned cable which has been on hand for one year, the Electric Company shall charge the Telephone Company monthly at the rate of 8% per annum on the average investment in such cable, including the value of reels and lags.
- (2.5) Empty reels returned to the warehouse shall be subject to the rates of remuneration specified in paragraphs 2.2, 2.3 and 2.4 of this Agreement.
- (2.6) To cover the clerical expense in connection with 1637 empty reels and lags returned from the Telephone Company direct to Hawthorne, the Electric Company shall charge the Telephone Company ½ of 1% of the amount of the credit for such reels and lags.
 - (2.7) The remuneration specified in paragraphs 2.2, 2.3, 2.4 and 2.5 of this Agreement, may be applied on each bill or credit rendered by the Electric Company for such material or included in a monthly special service bill, at the discretion of the Telephone Company.

3. Termination.

This agreement may be altered by mutual agreement or terminated upon three months' notice in writing from either party to the other.

Yours truly,

WESTERN ELECTRIC COMPANY, INC., By R. W. VAN VALKENBURGH.

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

DEAR SIR:

1638 This letter is to outline the conditions under which, beginning August 1, 1913, we (hereinafter referred to as the Electric Company) will prepay transportation charges on shipments made your Company (hereinafter referred to as the Telephone Company), and take up and adjust claims with carriers.

Service.

The Electric Company will prepay transportation charges on shipments to the Telephone Company, and adjust claims with carriers.

Remuneration.

For performing this service the Electric Company will make a monthly charge of \$80.00, representing approximately its cost of

doing the work and interest for a period of forty-five days on the total amount of money advanced each month.

Yours truly,

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH.

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

1639 DEAR SIR:

This letter is to outline the conditions under which, beginning August 1, 1913, we (hereinafter referred to as the Electric Company) will supervise cartage, except that covering the hauling of new material to the Electric Company's warehouse, as requested by your Company (hereinafter referred to as the Telephone Company).

Service.

The Electric Company agrees to handle the trucking of outgoing material from its warehouse to the proper freight terminal or other points designated by the Telephone Company, and incoming returned material from the freight terminals or other points to its warehouses.

Remuneration.

The Electric Company will render a monthly bill covering its actual cost of truck hire, plus 6% to cover the cost of supervision of trucks and necessary clerical work.

Yours truly,

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH.

1640

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

DEAR SIR:

This letter is to outline the conditions under which, beginning August 1, 1913, we (hereinafter referred to as the Electric Company) will receive, store and deliver telephone and transmitters for your Company (hereinafter referred to as the Telephone Company).

Service.

The Electric Company agrees to receive, store, deliver and keep records of American Bell instruments on the following terms:

Receiving.

The expense of receiving and delivering returned instruments to the American Bell Distributing Station shall be included in the charge for special service covering returned goods, classified as "A," "B" and "C."

Storing, Receiving, and Keeping Records.

From the time returned instruments are delivered to the Distributing Station, all expense incidental to storing, shipping and keeping records shall be borne by the American Bell Tele1641 phone Company, and no further charge shall be made against the Telephone Company. All expenses incurred by the Electric Company in connection with the handling of new American Bell instruments shall be borne by the American Bell Telephone Company.

Yours truly.

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH.

Mr. A. B. Elias, General Manager,
Southwestern Telegraph & Telephone Co.,
Dallas, Texas.

May 1, 1918.

DEAR SIR:

This letter is to outline the conditions under which, beginning May 1, 1918, we (hereinafter referred to as the Electric Company) will warehouse and distribute stationery and office supplies for your Company (hereinafter referred to as the Telephone Company).

- To simplify the accounting for stationery and office supplies, it is agreed that they shall be billed to the Telephone Company when they are received in the Electric Company's warehouse
 and that no bills shall be rendered when shipment is made from the warehouse to the Telephone Company.
- 2. Under this arrangement the Telephone Company carries the investment in this class of material while it is in the Electric Company's warehouse; the remuneration rate of 6% contemplates that the Electric Company shall carry an investment in warehouse stocks equal to sixty days' requirements. It is therefore agreed that stationery and office supplies handled under this routine shall be billed to the Telephone Company as specified, except that the percentage over cost shall be five (5) instead of six (6).
- 3. This Agreement may be altered by mutual consent or cancelled. upon three months' notice in writing from either party to the other.

Yours truly, WESTERN ELECTRIC COMPANY, INC., By R. W. VAN VALKENBURGH.

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

DEAR SIR:

This letter is to outline the conditions under which, be ginning August 1, 1913, we (hereinafter referred to as the Electric Company) will inspect articles not made by the Western Electric Company as requested by your Company (hereinafter referred to as the Telephone Company).

Service.

The Electric Company agrees to inspect such material of Not W. E. manufacture as the Telephone Company may designate,—a list of such material to Form Supplement (B) to this letter.

Remuneration.

Supplement (A) to this letter is a list of the standard inspection charges in force at present. These prices represent actual cost to the Electric Company and are subject to revision.

Where standard inspection charges are available, they shall be included in the price of the material. Where there are no standard charges, inspection shall be billed as a separate item at actual cost to the Electric Company, plus a reasonable loading for supervision.

Yours truly.

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH.

1644 Note.—New Supplement ("A") became effective June 1, 1919.

May 28, 1919.

Supply Agreement-Inspection Charges.

Supv. of Supplies, The S. W. T. & T. Co.:

We are enclosing details of a new method for handling the cost of inspecting not WE material purchased for telephone customers.

Effective June 1, 1919, and continuing until further notice, inspection of all material for "A" and "B" customers will be charged at standard percentage rates as listed in Appendix "C" of this supplement. It will be observed that items on which inspection is required have been divided into fourteen groups, representing various classes of apparatus, material, tools and supplies.

Standard percentage rates have been established for each group which, when applied to the value of the material, will represent the Western Electric Company's charge against the Telephone Company for inspection. Rates are subject to change when warranted by change in cost.

Under the present system, the old system, a tremendous amount of clerical work is involved in order to accumulate data necessary for the revision of standard inspection rates to meet continually changing conditions, and often by the time the new

rates are established, conditions are again changed, resulting in a heavy loss or excessive profit in the particular account affected.

Furthermore, the heavy expense incurred in keeping actual cost records on standard rate accounts and on individual items billed at cost, has to be absorbed and is reflected in the standard rate established and on inspection charges at actual cost.

Under the new method the clerical work involved in keeping records of cost and changing standard percentage rates will be relatively light, and changes may be made much more easily and promptly to meet existing conditions, with the result that our billing will be

more nearly representative of the actual cost.

When making comparisons by applying the same percentage rate to items which are of a similar character but which vary considerably in price, you will doubtless notice certain inconsistencies, but it should be borne in mind that this plan is based on averages and that it is simply a method of assessing against the various telephone companies the Western Electric Company's cost of inspecting not WE material.

(Signed)

L. A. DAVIES, Stores Manager W. E. Company.

1646

Effective June 1, 1919.

Supplement "A."

Effective June 1, 1919, and until further notice, inspection of all material for "A" and "B" customers will be charged to them at standard percentage rates as listed in Appendix "C" of this Supple-All active items on which inspection is required have been divided into fourteen groups representing various classes of apparatus, materials, tools and supplies.

Standard percentage rates have been established for each group, which when applied by the distributing houses to the value of the material, will represent our charge against the customer for inspection. These rates are based on the Engineering Department's records of cost of inspection and are subject to revision when warranted

by changes in cost.

Appendix "A" of this Supplement is an alphabetical list of active items, showing the number of the group to which each has been assigned.

Appendix "B" contains the same items as Appendix "A" classified into groups.

Appendix "C" is a description of the various groups, the standard percentage rate of inspection to become effective June 1st being shown, opposite the respective group numbers.

1647 The fact that an item appears in Appendices "A" and "B" does not necessarily mean that inspection of that item is called for by all companies, and each house should call for inspection only on the basis of instructions from the companies for whom they buy.

When inspections are waived a report to that effect will be mailed immediately by the Inspection Department to the distributing house concerned, in order that inspection charges shall not be billed to the customer. If the distributing house calls for inspection of an item which is not included in any of the fourteen groups covered in Appendices "A" and "B", they should communicate immediately with the Assistant Contract Sales Manager, who will advise at once under

what group the item should be placed.

This new method of handling inspection expense eliminates all billing of inspection charges to the distributing house by the supplier, the Inspection Department and the Broadway Accounting Division; the distributing houses are, therefore, responsible for seeing that inspection at the standard percentage rate is included in their bills to customers on all items inspected, and it is important that the local routine be such that it will prevent failure to bill for inspection expense.

Suppliers' bills covering shipments made on or after June 1, 1919, which include inspection charges, should be returned for correction. Upon receipt of an invoice from a supplier covering in-

spected material shipped either direct or into stock the distributing house clerk handling inspection charges, shall refer to either Appendix "A" or "B" of this supplement and determine into which group the material in question has been classified. After determining the group number, Appendix "C" should be referred to and the standard percentage rate for that group should be applied to the net cost of the material, after deducting all discounts,

but not including freight, cartage, packing, etc.

When inspection charges on either direct shipments or shipments into stock have been determined on the basis outlined, the invoices should be backed up showing the total amount of inspection to be charged and the group number under which the item has been classified. Inspection costs which form a part of the unit price on stock items must be shown as a separate item on the back of the suppliers' invoice.

The distributing house clerk handling inspection charges should keep a daily record of the amount of inspection billed under each group and make a monthly summary of all such charges, which should be credited to the Broadway Accounting Division each month. Only one credit form is necessary; the amount credited

to each group, however, must be shown separately.

As the distributing houses must render credit covering inspection charges in the same month in which the material is billed to them by the supplier, it will not be possible for the voucher clerk to make up the monthly credit summary from the daily pay-

1649 ments as credit would not be received during the proper month on invoices payable in 30, 60 or 90 days. It is, therefore, recommended that this work be assigned to the buyer or clerk who terms invoices and checks prices, as the inspection charges can be added at the same time and it would involve but little εxtra work for this clerk to keep a daily record of these charges, which

could be summarized at the end of the month.

It is further recommended that the clerk figuring inspection charges be required to indicate on the back of the supplier's invoice by a symbol that inspection charges have been posted to the monthly credit summary, and the voucher clerk be required to check all invoices showing inspection charges for this symbol, to insure that proper credit is rendered.

APPENDIX "A."

Alphabetical List of Items on Which Standard Percentage Rates Have Been Established.

Items.	Group No.		Items.	Group No.
Ammeters Anchors, Guy Anchors, Screw Arms, Cable	13 5 5 5 8 8 8 8 8 8	locks, locks, locks,	Blocks, Creosoted Anchor Blocks, Cable Blocks, Connecting Blocks, Fuse	9 9 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1650				
Arms, Resonator	13 B	locks.	Blocks, Wood House	14
Arresters, Lightning	14 B	locks,	Protector	13
Awls, Installers	12 B	Blocks,	Pulley	12
Axes	12 B	3locks,	Snatch	12
Axles, Reel	5 B	Blocks, 1	orcelain Termi	13
	B	locks,	Creosoted Tree	6
Backboards	14 B	locks,	Slocks, Wood Wall	14
Backs for Telephone Booths.	14 B	luestor	l'uestone	14
Bags for Misc. Supplies.	14 B	oards,	Soards, Bulletin	14
Bags, Cord	12 B	oards,	Butting	12
Bags, Construction Tool	12 B	oards,	Running	12
Bags, Installers' Tool	12 B	olts, T	ype ('C')	4
Bags, Trouble Kit	12 B	olts, C	Bolts, Carriage	4
Balconies, Pole	5 B	olts, C	Cross Arm	4
Bands, Steel for Poles	5 B	Solts, D	ead Ending	4
Bars, Digging	12 B		Double End	4
Dare, File	14 B	Solts, E	Eye	4

Bars, Manhole Bars, Manhole Locking Bars, Punch Bars, Tamping Batten, Fence Battery Material Beading for Frame Moulding.	ого 21 24 44 44 ЖДДДДДД	Bolts, Expansion Bolts, Guy Clamp Bolts, Large Head Bolts, Rock Guy Standard and Special. Bolts, Machine.	
1651			
Beams "I"	5 Bo	Bolts, Sounder	
03 F	14 Bc	Bolts, Stove	
Bells, Electric	14 B(Sooths, Telephone & Farts	
	12 B	Soxes, Battery	
-	14 Bc	-	
Bends, Cast Iron	5 Be	Outside Cable	
Bends, Pipe	5 B	Boxes, Call	
Binding, Cotton Stay	14 Bc	Compartment & Stock	
	14 Bc		
Bits, Car	12 Be	Boxee, Leak	
Bits, Twist Stock	12 Bc	Boxes, Metal	
Blankets, Asbestos	14 Bc	Boxes, Paint	
Boxes, Pencil	14 C8	Jans, Ash-Rubbish Garbage	
Boxes, Receptacle & Cover	14 Cg	anvas14	
	13 Ca	Caps, Steel Cone	
	-	Japs, Pipe	
7	13	arbolineum, For Open Tank Treatment	
Boxes, Tote	14 Cg	Sars, Cable Chute 14	
	TT A	at the state of th	

APPENDIX "A." -Continued.

Group No. 14 55 14	55554644544444444
Casings, Storage Battery. Castings, Conduit Castings, Manhole Celluloids for No. Plates.	Chains, Guard Chains, Guy Chains, Pole Chains, Pole Chains, Pulling Out Chairs, Directory Chairs, Operator's—Wood Chairs, Operator's—Steel Chisels Chromac Clamps, Long Saut Cable Clamps, Long Saut Cable Clamps, Cable Box Clamps, Cross Connecting Clamps, Cable Gound Clamps, Dead Ending
Group No. 112 144 55	2007200000000000 1
Boxes, Ticket Boxes, Tool Boxes, Troubie Braces, Back Braces, Pole Balcony	Braces, Cross Arm Braces, Ext. Fixture Back. Braces, Ext. Fixt. Diagonal Braces, Ext. Fixt. Diagonal Braces, Ext. Fixt. Vertical Braces, Crecsoted Pole Brackets, Corner Brackets, Corner Brackets, Distributing Brackets, Distributing Brackets, House, Iron Brackets, Wooden, House Brackets, Monting Brackets, Meter Brackets, Protector Mounting Brackets, Protector Mounting Brackets, Creo. Pole Line Brackets, Iron Pole Line Brackets, Iron Pole Line Brackets, Transportation Drop

4544544	454040405444506554544
	ket. Pins)
Clamps, 3 Bolt Guy Clamps, Haven Clamps, Malleable Iron Clamps, Pothead Clamps, Splicing Clamps, Suspension Clamps, Terminal	Clamps, Wire Rope Cleaners, Hole Cleats, Gross Arm. Cleats, Fibre Cleats, Iron Cleats, Wood Cleis, Wood Clevices, Double Climbers, Lineman's Clips, Lineman's Test. Clips, Switchboard Ticket. Clips, Transposing Clocks Cobs, Wood (For Steel Pins) Coils, Detector Files, Contact Files, Contact Files, Contact Files, Contact Files, Lighting Fixtures, Sign
245504E	$\begin{smallmatrix} 4&4&4&4&4&4&4&4&4&4&4&4&4&4&4&4&4&4&4&$
Brackets, Wall Buckets, Canvas Buckles Bucks, Gainers Buggies, Cable Bushings Buttons, Porcelain Filler	Buttons, Push Butts, For Exp. Ladders. Buzzers Cabinets, Filling Cabinets, Pigeon Hole Cable, Aerial Cable, Emergency Cable, Emergency Cable, L. C. Paper Insulated Cable, Office Cable, Office Cable, Switchboard Condensers Conduit, Vitrified Clay Conduit, Creosoted Wood Connectors, Iron Connectors, T-A Line

APPENDIX "A." -Continued.

Broup No.	44554	44044844844896844886
Items.	Fixtures, Illuminated Sign. Flags, Red Trucking. Forks, Raising. Framework, Switchboard. Frames and Fixtures.	Frames, Advertising Frames, Bronze Frames, Manhole Frames, No. Plate Frames, Wall Distributing Funnels Furniture Fuses Gaskets for Floor Outlets Gaskets, Manhole Gauges, Bell Gear, Iron Chafing. Generators, Motor Globes, Canteen Sign Gloves, Rubber Gloves, Rubber Gloves, Arte Guards, Arte Guards, Iron Cable.
Group No.	1224	400046104000000000000000000000000000000
Items.	Connectors, Strand Coppers, Battery Coppers, Soldering Cord, In Bags & On Rolls.	Cords Couplings, Conduit Couplings, Flange for Copper Tubing Couplings, Reducing Covers, Ash Can Covers, Manhole Covers, Sand Pail Cranes, Galvanized Cranes, Sign Cranes, Sign Creosote Cross Arms, Cedar Cross Arms, Cross Arms, Pir Cross Arms, Pir Cross Arms, Pine Cross Arms, Iron or Steel Cross Arms, Iron or Steel Cross Arms, Inon or Steel

Cross Arms, Unpainted or Uncreosoted Cutouts Deadmen Dinkey Pole Dogs, Cable	25 25 25 25 25 25 25 25 25 25 25 25 25 2	Guards, Cribbing Guards, Hub Guards, Lamp Guards, Manhole Guards, Wood Tree.	
Doors for Battery Cabinets. Dressers, Cable Drills, Drills, Rock Drills, Rock Drills, Star Drills, Star Drills, Star Drills, Star Ejectors, For Star Drill. Extractors, Lamp Cap. Eyes, Manhole Eyes, Manhole Eyes, Manhole Frerules Ferrules Hangers, Radiator Hangers, Radiator Hangers, Wire, Long Span Hangers, Wire, Long Span Hangers, Wire, Long Span Hangers, Wire, Long Span Hangers, Wire, Long Shan	45555555555555555555555555555555555555	Hambroline 14 Hammers 12 Handles, Cant Hook 12 Handles, Chisel 12 Handles, Droplight 12 Handles, Hammer 12 Handles, Peavie 12 Handles, Raising Fork 12 Handles, Shovel 12 Handles, Misc. Tool 12 Knives, Digging Slick 12 Handles, Misc. Tool 12 Knives, Pruning 12 Knobs, Porcelain 12 Ladders, Extension 12 Ladders, Sectional 12 Ladders, Sectional 12 Lockers 14	

APPENDIX "A."—Continued.

Insulators, Electrose	пп
Insulators, D. P. Porcelain. Insulators, Strain Irons, Angle for Xarms. Irons, Battery Irons, Break Irons, Cuard Irons, Window Jacks Joints, Expansion Kettles, Parafine Keys, Telegraph Knives, Battery Knives, Chipping Pins, Rock Elm Pins, Other Wood Insulator Pins, Other Wood Insulator Pipe, Vit. Clay Steel. Pipe, Vit. Clay Steel. Pipe, Vit. Clay Steel. Pipe, Vit. Clay Steel. Plank, Creosoted Anchor Plank, Creosoted Conduit. Plates, Guy	
	Rods. Conduit

APPENDIX "A." -Continued.

1658 Items. Gr	Group No.	Items.	Group No.
Plates, Strain	5	Rods, Ground	10
Pliers	12	Rods, Guy	ıo.
Conduit or I	6	Rolls, Tool	12
Plugs, Fibre 1	14	Rope adop	14
Plugs, Split	13	Rubber, Para	14
Plugs, Traffic 1	12 8	Satchels	12
Pole, Changers Gravity Battery	13 8	Saws, Crosscut	12
Poles, Creosoted	9	Saws, Hand	12
Poles, Cypress	6	Saws, Keyhole	12
Poles, Pike	12 8	Scoops, Sand	12
Poles, Sawn Redwood	6	Scrap Copper	14
Poles, Steel	10	Screws, Galvanized	10
Poles, Unpainted and Uncreosoted	6	Screws, Lag-Fetter and Twist Drive	4
Posts, Binding	14 8	Screws, Wood and Machine	14
Jounpound bunoduno	12 8	Seals, Square Cording	14
Paraffine	12 8	Seats for Telephone Booths	14
Solder	12 8	Seats, Cable Box	20
	13 8	Seats, Pole	20
Protectors, Iron Cable	20	Sets, Anti-Noise	13
	12 8	Sets, Twist Drill	12
Suction or Manhole	12 8	Sets, Learners	13
n Sleeve	12 8	Sets, Telegraph Repeater	13
Racks, Bicycle	14	Sets, Shellac	14
1659			
Racks, Cable	20	Sets, Stencil	14

Racks, Message Racks, Reel Racks, Reel Racks, Wood Rammers, Concrete Receptacles, Call Box Receptacles, Camp Reducers, Conduit Reels Registers, Double Pan Regulators, Combination Relays and Accessories Relays, Polar Resonators, Arm Resonators, Arm Retainers, Message Rheostats		8449840000899444
Rings, Body Belt. Sleeves, Iron Connecting. Sleeves, Lead. Sleeves, Linen. Sleeves, Paper. Sleeves, Tinned Steel. Sleeving Cotton. Slicks, Digging.	Sleeves, Tinned Copper Slotted Switches Syringes, Battery Tables, Wood and Steel. Tags, Linen Tags, Linen Tage, Adhesive	4844444
Sockets, Lamp Solder Sounders	13 Tape, Tarred Cable 14 Tape, Cotton 13 Tape, Fricton 1	444

Items.	Group No.	Items.	Group No.
Spindles and Washers for Reels	2	rape, Linen	14
Spoons, Digging	1.5	Tape, Linen Measuring	14
Springs, Adjustable Relay	13	Tape, Rubber	14
Springs, Key Sounder and Relay	133	Far, Dead Oil of Coal	n ;
Standards, Lamp	13	Farpaulins	14
Stands, Message Clips	14	Fonts	14
Stands, Furnace		Terminals, Cable	14
Stands, Oil Set	12	Phimbles	2
Stands, Resonator	13	Timbers, Y. P. Plain and Creosoted	
Staples	10	Tips, Gas Lighter	
Stencils	14	Tongs, Carrying	
Steps for Concrete Poles	10	Tongs, Pole	
Steps for Creosoted Pole	-	Tools, Adjuster Relay Keys and Jacks	
Steps, Iron Pole	10	Tools, Digging	12
Stirrups, Cable Susp	20	Tools, Pole Raising	
Strand, Galv. Steel	2	Tools, Pulling	
Strand, Galv. Suspension	61	Tools, Splicers Cable	12
-	20	Tools, Wood Cutting	12
	10	Transmitters, Telegraph	13
0		Trays, Wood Battery	14
Straps, Climber	12	Trays, Desk	14
1661			
Straps, Galvanized Straps, Loop	מימי	Trimmers, Tree Trolleys, Cable	12 5

17688842888777774488888	00 00 00 00
Tubes, Porcelain Tubing, Copper Units, Dist. Frame & Parts. Units, Resistance Units, Test Panel Units, Test Panel Units, Test Panel Use Use Volt Mil Ammeters Washers, Banck Washers, Square Washers, Banck Wire, My P. Iron or Steel Wire, My P. Iron or Steel Wire, Iron Tie Wire, Misc. B. R. C. Wire, Misc. B. R. C.	Wire, Office Wire, Pothead Wire, Railroad Crossing. Wire, Galv. River Crossing.
rerus 4444 a a rerur reru 4 2 2 4 4 res	88788
Straps, Pipe Straps, Reinforcing Straps, Reinforcing Straps, Safety Straps, Wire Coil Straps, Wire Coil Strips, Pesignation Strips, Flexible Text Studs, Pole Studs, Pole Studs, Manhole Supports, Angle Iron or Steel Supports, Loading Coil Supports, Loading Coil Supports, Meter Switchboards Washers, Saddle Wodges, Multiplex Wedges, Fibre Wheels, Trolley Wire, Galvanized Armor	Wire, Bridle Wire, Bonze Wire, H. D. Copper Line—Bare. Wire, Copper—Steel Line—Bare. Wire, Copper Steel O. D.

Group Items. No.	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	8	T	12	ninal 12	
Group No.	•••	. 3 Wire, Tree			. 3 Wrenches, Cable Terminal.	. 3 Zines, Battery
Items.	opper Tie	V. P. H. D. Copper	I. D. O. D. Copper	V. P. Cross Connecting	ist. Frame or Flame-proof	Wire, Inside

1663

APPENDIX "B."

Items Covered by Standard Percentage Rates Divided by Groups.

Group No 1.

Wire, H. D. Copper Line Bare. Wire, Trolley.

Group No. 2.

Strand, Galv. Steel. Strand, Galv. Suspension. Wire, Galvanized Armor.

Wire, Copper Steel Line Bare. Wire, Galv. Iron or Steel Line.

Wire, Iron Tie. Wire, Railroad

Wire, Railroad Crossing. Wire, Galvanized River Crossing.

Group No. 3.

Cable, Aerial.
Cable, Bridle.
Cable, Emergency.
Cable, L. C. Paper

Cable, L. C. Paper Insulated. Cable, L. C. Rubber Insulated.

Cable, Office.

1664 Group No. 3.

Wire, Tree.

Group No. 4.

Bolts, Type "C."
Bolts, Carriage.
Bolts, Cross Arm.
Bolts, Dead Ending.
Bolts, Double End.
Bolts, Eye.

Bolts, Expansion. Bolts, Guy Clamp. Bolts, Large Head.

Bolts, Rock Guy Standard & Special.

Bolts, Tree Guy. Bolts, Machine. Bolts, Sounder. Bolts, Stove. Cable, Submarine. Cable, Switchboard.

Wire, Bridle. Wire, Bronze.

Wire, Copper Steel O. D.

Wire, Copper Tie.

Wire, W. P. H. D. Copper Wire, H. D. O. D. Copper

Wire, W. P. C. S. Connecting. Wire, Dist. Frame or Flameproof.

Wire, Inside.

Wire, B. R. C. Desk Instrument. Wire, W. P. Iron or Steel.

Wire, Misc. B. R. C.

Wire, B. R. C. Morse Circuit. Wire, Office.

Wire, Office. Wire, Pothead.

Wire, Sub-station Ground. Wire, B. R. C. Switchboard.

Clamps, Three Bolt Guy. Clamps, Malleable Iron. Clamps, Pothead.

Clamps, Suspension. Clamps, Terminal. Clamps, Wire Rope.

Screws, Lag Fetter & Twist Drive.

Group No. 5.

Anchors, Guy.
Anchors, Screw.
Arms, Cable.
Axles, Reel.
Balconies, Pole.
Bands, Steel for Poles.
Bars, Manhole.
Bars, Manhole Locking.
Beams, "I."
Bends, Cast Iron.
Bends, Pipe.

Clamps, Cable.
Clamps, Long Saut Cable.
Clamps, Cable Box.
Clamps, Crossover.
Clamps, Cross Connecting.
Clamps, Dead Ending.
Clamps, Ground.
Clamps, Two Bolt Guy.

Braces, Back.
Braces, Pole Balcony.
Braces, Cross Arm.
Braces, Ext. Fixture Back.
Braces, Ext. Fixture Diagonal.
Braces, Ext. Fixture Vertical.

1665

Braces, for Pole Seats. Brackets, Corner. Brackets, Distributing. Brackets, Drop for Porc. Insulators. Brackets, Electric Light. Brackets, House, Iron. Brackets, Mounting. Brackets, Protector Mounting. Brackets, Iron Pole Line. Brackets, Transposition Drop. Brackets, Wall. Buggies, Cable. Caps, Pipe. Cars, Cable. Castings, Conduit. Castings, Manhole. Chairs, Trolley. Cleats, Iron. Clevices, Double. Connectors, Strand. Couplings, Conduit. Couplings, Flange for Copper Tubing. Couplings, Reducing. Covers, Manhole.

Cranes, Galvanized. Cranes, Sign. Cross Arms, Iron or Steel. Dogs, Cable. Eyes, Manhole. Eyes, Screw Fasteners, Radiator. Frames, Manhole. Gear, Iron Chafing. Guards, Iron Cable. Guards, Cribbing. Guards, Hub. Hangers, Cable Box. Hangers, Bridle Cable. Hangers, Pipe. Hangers, Wire, Long Span. Hangers for Running Blocks. Hooks, Cable. Hooks, Cable Rock. Hooks, Guy. Hooks, Manhole. Hooks, Pipe. Hooks, Reinforcing. Irons, Angle for X arms.

1666

Irons, Break.

Irons, Guard.
Irons, Pulling In.
Irons, Window.
Joints, Expansion.
Nails.
Nuts.
Parts for Emergency Reels
Pins, Break Iron.
Pins, Dowel.
Pins, Ground.

Rings, Dist. Drive.
Rings, Pole.
Rings, Dist. Pole.
Rings, Porcelain Wiring.
Rods, Ground.
Rods, Guy.
Screws, Galvanized.
Seats, Cable Box.
Seats, Pole.
Shields, Iron Cable.
Shields, Sheet Iron Duct.

Pins, Insulator Steel. Pins, Transposition Bracket. Pipe, Iron and Steel. Plates, Guy. Plates, Strain. Poles, Steel. Protectors, Iron Cable. Racks, Cable. Racks, Reel. Reducers, Conduit. Rings, Ordinary Bridle and Dist. Straps, Loop. Rings, Corner Bridle. Rings, Aerial Cable, Rings, Self-Clamping Cable.

Sleeves for Copper Tubing. Spindles & Washers for Reels. Staples. Steps for Concrete Poles. Steps, Iron Pole. Stirrups, Cable Susp. Straps, Angle Iron. Straps, Cable. Straps, Cable Box, Straps, Galvanized. Straps, Pipe. Straps, Reinforcing. Straps for Solid or Split Porcelain Rings.

1667

Studs, Manhole. Supports, Angle Iron or Steel. Supports, Cross Arm. Supports, Loading Coil. Supports, Pothead. Thimbles. Trolleys, Cable. Tubing, Copper. Washers, Large. Washers, Round. Washers, Square. Washers, Cupped. Washers, Saddle. Wheels, Trollev.

Group No. 6.

Poles, Creosoted. Stubs, Pole. Stubs, Creosoted Pole.

Group No. 7.

Brackets. Wooden House. Brackets, Creosoted Pole Line. Pins, Rock Elm. Pins, Other Wood Insulator. Steps, Creosoted Pole.

1668

Plugs, Conduit or Drift. Poles, Cypress. 55 - 219

Group No. 8.

Conduit, Creosoted Wood. Cross Arms, Cedar. Cross Arms, Creosoted. Cross Arms, Cypress. Cross Arms, Fir. Cross Arms, Pine. Cross Arms, Juniper. Cross Arms, Painted. Cross Arms, Unpainted or Uncreosoted.

Group No. 9.

Blocks, Creosoted Anchor. Blocks, Cable. Blocks, Creosoted Tree. Braces, Creosoted Pole. Carbolineum for Open Tank Treatment. Cleats, Cross Arm. Cobs, Wood (For Steel Pine). Creosote. Guards, Wood Cable. Logs. Creosoted Anchor. Plank, Creosoted Anchor. Plank, Creosoted Conduit.

Bags, Installers' Tool. Bags, Trouble Kit.

Poles, Sawn Redwood.
Poles, Unpainted and Uncreosoted.
Shields, Wood Cable.
Tar, Dead Oil of Coal.
Timbers, Y. P. Plain and Creosoted.

Group No. 10.

Conduit, Vitrified Clay. Pipe, Vitrified Clay Sewer.

Group No. 11.

Insulators, Bridle Wire.
Insulators, Electrose.
Insulators, Glass.
Insulators, D. P. Porcelain.
Insulators, Strain.
Knobs, Porcelain.
Tubes, Porcelain.

Group No. 12.

Awls, Installers. Axes. Bags, Cord. Bags, Construction Tool.

1669

Coppers, Soldering. Covers. Cable Box. Deadmen. Dinkeys, Pole. Dressers, Cable. Drills. Drills, Pipe. Drills, Rock. Drills, Star. Drivers, Screw. Ejectors for Star Drills. Extractors, Lamp Cap. Files. Finders, Adjustable Splicers. Forks, Raising. Gauges. Bell. Grips, Buffalo.

Bars, Digging Bars, Punch. Bars, Tamping. Belts, Body. Belts, Tool. Bits, Car. Bits, Twist Stock. Blocks, Pulley. Blocks, Snatch. Boards, Butting. Boards, Running. Boxes, Tool. Buckles. Bucks, Gainers. Chains, Guard. Chains, Guy. Chains, Pole. Chains, Pulling Out. Chisles. Clamps, Haven. Clamps, Splicing. Cleaners, Hole. Climbers, Lineman's.

Handles, Lug Hook. Handles, Peavie. Handles, Raising Fork. Handles, Shovel. Handles, Digging Slick. Handles, Misc. Tool. Handles, Trimmer Tree. Haversack, Lineman's. Holders, Star Drill. Holder, Soldering Iron. Hooks Brush. Hooks, Cant. Hooks, Carrying. Hooks, Lug. Hooks, Shave. Hooks, Snap. Knives, Battery.

Guards, Axe.
Guards, Manhole.
Hammers.
Handles, Cant Hook.
Handles, Chisel.
Handles, Digging Spoon.
Handles, Drop Light.
Handles. Hammer.

1670

Pans, Splicers' Catch.

Peavies.
Picks.
Picks, Pole.
Picks, Test.
Pickaroons.
Pliers.
Plugs, Traffic.
Poles, Pike.
Pots, Compound.
Pots, Paraffine.

Pots, Solder.

Pulleys.
Pumps, Suction or Manhole.
Punches, Cotton Sleeve.

Rammers, Concrete.

Reels.
Rings, Body Belt.
Rods, Conduit.
Rolls, Tool.
Satchels.
Saws, Crosscut.
Saws, Hand.
Saws, Keyhole.
Scoops, Sand.

1671 Group No. 13.

Ammeters.
Arms, Resonator.
Blocks, Connecting.
Blocks, Fuse.
Blocks, Protector.
Blocks, Porcelain Terminal.
Boxes, Inside Cable.
Boxes, Outside Cable.
Boxes, Call.
Boxes, Jack.

Knives, Chipping. Knives, Draw. Knives, Pruning. Ladders, Extension. Ladders, Manhole. Ladders, Sectional. Ladders, Step. Mallets.

Sets, Twist Drill.

Shelves, Furnace. Shoes, Cable Bending. Shovels. Slicks, Digging. Spoons, Digging. Stands, Furnace. Stands, Oil Set. Straps, Climber. Straps, Safety. Tips, Gas Lighter. Tongs, Carrying. Tongs, Pole. Tools, Adjuster Relay. Tools, Key and Jacks. Tools, Digging. Tools, Pole Raising. Tools, Pulling. Tools, Splicers' Cable. Tools, Woodcutting. Trimmers, Tree. Twisters, Joint. Vise. Wrenches. Wrenches, Cable Terminal.

Instruments, Measuring.
Jacks.
Keys, Telegraph.
Lamps.
Lamps, Resistance.
Lamps, Signal.
Mil Ammeters.
Mountings, Protector.
Mountings, Resistance.
Panels, Emergency Fuse.
Panels, Filler.
Panels, Jack.

Boxes, Leak.
Boxes, Line Resistance.
Boxes, Trans. Switch.
Boxes, Terminal.
Buttons, Porcelain Filler.
Clocks.
Coils, Detector.
Condensers.
Cutouts.
Framework, Switchboard.
Frames—Wall Distributing.
Fuses.
Generators, Motor.
Hoods, Resonator.

Panels, Lamp.
Plugs, Split.
Pole Changers Gravity Battery.
Protectors.
Racks, Resistance Lamp.
Receptacles, Call Box.
Receptacles, Lamp.
Registers, Double pen.
Regulators, Combination.
Relays and Accessories.
Relaps, Polar.
Resonators, Arm.
Rheostats.

1672

Sets, Anti-Noise. Sets, Leaners. Sets, Telegraph Repeater. Sets, Test. Shelves, Switchboard. Shields, Lamp Rack Wiring. Sockets, Lamp. Sounders. Springs, Adjustable Relay. Binding, Cotton Springs, Kev Sounder and Relay. Bins, Excelsion. Standards, Lamp. Stands, Resonator. Switchboards. Switches. Transmitters, Telegraph. Units, Dist. Frame and Parts. Units, Resistance. Units, Test Panel. Voltmeters. Volt Mil Ammeters.

Group No. 14.

Arresters, Lightning.
Backboards.
Backs for Telephone Booths.

1673

Boxes, Ticket. Boxes, Trouble. Boxes, Meter. Buckets, Canvas.

Bags, For Misc. Supplies. Bars. File. Batten, Fence. Battery Material. Beading for Frame Moulding. Beeswax. Bells, Electric. Benches, Oak Work. Binding, Cotton Stay. Blankets, Ashestos. Blocks, Wood House. Blocks, Wood Wall. Bluestone. Boards, Bulletin. Booths, Telephone. Booths, Miniature Telephone. Boxes, Battery. Boxes, Compartment and Stock. Boxes, Metal. Boxes, Paint Boxes, Pencil.

Clips, Switchboard Ticket. Clips, Transposing. Connectors, Copper. Connectors, Iron.

Boxes, Receptacle and Covers.

Boxes, Tote.

Boxes, Trailing.

Bushings. Buttons, Push. Butts for Exp. Ladders. Buzzers. Cabinets, Filing. Cabinets, Pigeon Hole. Cabinets, Wood. Cans. Ash-Rubbish-Garbage. Caps, Steel Cone. Cartridge, Trouble Chute. Casings, Storage Battery. Celluloids for Number Plates. Chains, Directory, Chairs, Operator's, Wood. Chairs, Operator's, Steel. Chromac.

Cleaners, Jack. Cleats, Fibre Cleats, Wood. Clips, Lineman's Test.

1674

Gaskets for Floor Outlets. Gaskets, Manhole. Globes, Canteen Sign. Gloves, Rubber. Guards, Lamp. Guards, Wood Tree. Hambroline. Hangers, Marline Aerial Cable. Holders, Asbestos Blanket. Holders, Blank. Holders, Card. Holders, Ticket Pad. Hooks, For Extinguisher Bracket. Hooks, Wall Houseline, Marline. Hydrometers. Irons, Battery. Kettles, Paraffine. Lockers. Magazine, Dynamite, Hand. Micas, For Cutouts. Mirrors, Splicers. Moulding, Abrasion. Mountings, Booth.

Mountings, Thermometer.

Connectors, 7-A Line. Coppers, Battery. Cords. Cord, in Bags and on Rolls. Covers, Ash Cans. Covers, Sand Pail. Doors for Battery Cabinets. Ferrules. Files, Contaci. Fixtures, Lighting. Fixtures, Sign. Fixtures, Illuminated Sign. Flags, Red Trucking. Frames and Fixtures. Frames, Advertising. Frames, Bronze. Frames, Card. Frames, Number Plate. Frames, Sign. Funnels. Furniture.

Outlets, Floor Padlocks and Chains. Pails, Fire and Sand. Paint. Panels, End for Telephone Booth. Pans, Ground Paraffine. Plates, Number. Plugs, Fibre. Posts, Binding. Racks, Bicycle. Racks, Message. Racks, Wood. Retainers, Message. Rope. Rubber, Para Scrap, Copper. Screws, Wood and Machine. Seals, Square Cording Seats. For Telephone Booth. Sets, Shellac. Sets, Stencil. Shelves, For Telephone Booth. Shelves, Folding. Shields for Expansion Bolts.

1675

APPENDIX "B."-Continued.

Signs. Sleeves, Copper Cable. Sleeves, Copper Connecting. Sleeves, Tinned Copper Slotted. Sleeves, Iron Connecting. Sleeves, Lead. Sleeves, Linen. Sleeves, Paper. Sleeves, Tinned Steel. Sleeving Cotton. Solder. Stands, Message Clips. Stencils. Straps, Wire Coil. Strips, Designation. Strips, Fanning. Strips, Flexible Test.	Tags, Linen. Tags, Linen Cable. Tape, Adhesive. Tape, Tarred Cable. Tape, Cotton. Tape, Friction. Tape, Linen. Tape, Linen Measuring. Tape, Rubber. Tarpaulins. Tents. Terminals, Cable. Trays, Wood Battery. Trays, Desk. Varnish. Washers, Black Fibre. Wedges, Miltiplex.
Strips, Fanning.	

1676

Date Effective, June 1, 1919.

APPENDIX "C,"

Standard Percentage Rates for Inspection of Not W. E. Material.

		Standard
		percentage rate
Group	1	Bare H. D. Copper Line Wire
Group	2	Iron and Steel Wire and Strand
Group	3	Insulated Wires and Cable 1.
Group	4	Bolts and Clamps
Group	5	Other Pole Line Hardware and Construction Material
Group	6	Creosoted Pine Poles and Stubs 4.
Group	7	Wood Pins, Brackets and Pole Steps 12.
Group	8	Crossarms and Creosoted Wood Conduit 4.5
Group	9	Other Timber Products
Group	10	Clay Conduit
Group	11	Insulators and Knobs
Group	12	Tools 2.5
Group	13	Apparatus 3.
	14	Miscellaneous 1.5

1677

November 25th, 1919.

Effective December 1st, 1919.

Change Appendix "C" to Supplement "A" of the Supplementary Agreement as follows:

Group 6-Creosoted Pine Poles and Stubs.

4% rate to apply to Western Union Teleg. Company and South Western Tel. & Tel. Company only.

New rate of 8% effective on all bills rendered on and after De-

cember 1, 1919, to apply to all other Companies.

This increase due to new inspection specifications issued by the A. T. & T. Co.

E. C. ESTEP,
Assistant Contract Sales Manager,
Western Electric Company.

1678

August 1, 1913.

Southwestern Tel. & Tel. Company, C. A. Gates, General Manager, Dallas, Texas.

DEAR SIR:

This letter is to outline the conditions under which we (hereinafter referred to as the Electric Company) will purchase poles as required by you (hereinafter referred to as the Telephone Company).

Service.

The Electric Company agrees to purchase and deliver such poles as the Telephone Company may require; it being understood that all shipments will be made direct and that the Telephone Company will maintain such stocks of poles as are necessary.

Remuneration.

For furnishing chestnut poles which are bought in the field, the Electric Company will charge cost to it plus \$.35 per pole to cover salaries and expenses to buyers and inspectors and the expense of the Electric Company's General Pole Department plus 4%.

For furnishing poles other than chestnut, which are ordinarily bought from dealers, the Electric Company will charge cost to it plus 4% for inspection. Cost in this case means the

net price that the Electric Company is obligated to pay the suppliers. When the transportation charges are treated by suppliers as part of the net price to the Electric Company, they shall be included in cost as defined in above paragraphs. All other trans-

portation charges will be paid by Telephone Company, or if paid by the Electric Company, charged to the Telephone Company, but without the addition of above mentioned percentage.

Yours truly,

WESTERN ELECTRIC COMPANY, By R. W. VAN VALKENBURGH.

1680

No. 143.

This Exhibit shows (1) that during the rise of prices incident to the War the Western Electric Company increased its prices of telephone supplies only 52% to the Associated Companies as against 82% to independent companies, and as against an increase by other companies manufacturing telephone supplies of 121%; (2) that the Western Electric Company sells telephone supplies of its own manufacture to independent companies at prices substantially higher than to the Associated Bell Companies; and (3) that the sales of telephone supplies by the Western Electric Company to independent companies are made in a competitive market.

The exhibit consists of eleven pages. The first two pages give a summary of the data contained in the Exhibit and the remaining ten pages detail the data. The first two pages are as follows:

Memorandum.

Increase in Costs of Telephone Supplies, 1914 to 1919.

Attached are five statements dealing with the costs of certain items of telephone supplies in the years 1914 and 1919. The items shown were selected by the Engineering Department of the American Telephone and Telegraph Company to represent a range of important items of equipment and outside plant.

These statements make certain price comparisons which may be

summarized as follows:

Increase in Costs for Year 1919 Over 1914.

Western Electric Apparatus:	Per cent increase.
Prices to Associated Companies (Exhibit A). Prices to Independent Companies (Exhibit B)	52
Non-Western Electric Apparatus: Prices to Associated Companies (Exhibit C).	121
1681 Sales of Western Electric Apparatus Figured at Pr Companies in Comparison with Prices to Associated	rices to Independent d Companies.

Year.	Cost at associated Co. price.	Cost at independent Co. price.	Increase to independent companies.	Per cent increase.	Exhibit
1914	\$5,275,443	\$6,362,535	\$1,087,091	21	D
1919	7,973,278	10,999,897	3,026,619	38	

These summaries indicate:

(1) That the Western Electric Company during the rise of costs consequent to the War increased its prices only 52% to the Associated Companies as against 82% to the Independent Companies; and as against an average increase of 121% by other manufacturers of telephone supplies.

(2) That the Western Company sells apparatus of its own manufacture at prices being substantially higher to Independent Com-

panies than to Associated Companies.

If the Western Electric Company had sold its factory output of the items listed at the Independent Company prices instead of the Associated prices it would have increased its return 21% in 1914 and 38% in 1919 (taking 1919 output at 1918 figures).

(3) That the sales at the higher prices to Independent Companies are made in a competitive market which establishes the worth of the goods. The sales of the Western Electric apparatus to Independent Telephone and other non-contract companies amounted in 1914 to \$2,300,000 and in 1918 to over \$3,300,000.

No. 144.

This Exhibit shows the cost of telephone supplies to the Utica Home Telephone Company when said Company was independently owned as compared with the cost of the same kind of supplies to the Utica Home Telephone Company considered as a part of the Bell system and as purchasing its supplies through the Western Electric Company. The Exhibit shows that the cost of central office and sub-station equipment to said Utica Company during the years 1905 to 1912, when purchased from Independent Manufacturing Companies was 18.69% higher than the cost

1682 of such equipment when purchased from the Western Electric Company; and that the cost to said Company of lead cable when purchased from independent manufacturing companies during the same period was 8.08% higher than if purchased through the Western Electric Company. The exhibit consists of six pages, pages two (2) and five (5) being as follows:

Utica Home Telephone Company.

Utica, New York.

Actual Cost of Central Office and Substation Equipment Versus Cost of Equivalent Western Electric Items under Licensee Contract.

		Cost of equivalent	Actual cost higher by	higher by
Year.	Actual cost.	under licensee contract.	Amount.	Per cent.
905	\$1,759.50	\$1,399.02	\$360.48	25.77
906	8,372.87	6,841.43	1,531.44	22.38
2002	2,407.11	2,056.98	350.13	17.02
808	2,330.28	1,971.40	358.88	18.20
600	1,667.41	1,458.89	208.52	14.29
910	1.636.64	1,443.03	193.61	13.42
110	2,201.48	1,972.29	229.19	11.62
1912.	1,327.03	1,142.22	184.81	16.18
Total	\$21,702.32	\$18,285.26	\$3,417.06	18.69

1683 of such equipment when purchased from the Western Electric Company; and that the cost to said Company of lead cable when purchased from independent manufacturing companies during the same period was 8.08% higher than if purchased through the Western Electric Company. The exhibit consists of six pages two (2) and five (5) being as follows:

Utica Home Telephone Company.

Utica, New York.

Actual Cost of Central Office and Substation Equipment Versus Cost of Equivalent Western Electric Items under Licensee Contract.

		Cost of equivalent Western Flootric items	Actual cost higher by	higher by.
Year.	Actual cost,	under licensee contract.	Amount.	Per cent.
1905.	\$1,759.50	\$1,399.02	\$360 48	77 76
1906.	8,372.87	6,841.43	1.531 44	99.38
1907.	2,407.11	2,056,98	350 13	17.09
1908.	2,330.28	1,971.40	358.88	18.90
1909.	1,667.41	1,458.89	208.52	14 99
1910.	1,636.64	1,443.03	193 61	13.49
1911	2,201.48	1,972.29	229.19	11.62
1912	1,327.03	1,142.22	184.81	16.18
Total	\$21,702.32	\$18,285.26	\$3,417.06	18.69

1684

Utica Home Telephone Company.

Utica, New York.

Actual Cost of Lead Cable Versus Cost of Equivalent Western Electric Items under Licensee Contract.

Year. Actual cost. 1905. \$3,193.52 1906. 3,668.00	1 cost. under licensee contract. 13.52 \$3,819,07* 4,027.50* 18.00 385,13	Amount. \$625.55* 359.50* 152.87 784.53	Per cent. 16.38* 8.93* 39.69
		\$625.55* 359.50* 152.87 784.53	16.38* 8.93* 39.69
		359.50* 152.87 784.53	8.93* 39.69 41.37
		152.87	39.69
		784.53	41 37
			Trion
		809.15	12.30
		862.13	25.91
		12.80	6.67
1912 169.00		11.15	2.06
Total\$22,029.03	\$20,381.45	\$1,647.53	8.08

98,786 feet of Cable included in Study.

^{*}Red in copy.

No. 145.

This Exhibit is a copy of letter dated Feb. 25, 1920, from E. V. Cox, Supply Contract Auditor to C. A. Heiss, Assistant Comptroller, stating that the prices charged by the Western Electric Company for telephone supplies manufactured by it are standard and uniform to all Associated Bell Companies. The first two pages of the Exhibit follow:

Mr. C. A. Heiss, Assistant Comptroller;

DEAR SIR:

Section 3 (a) of the General Supply Contract between the Associated Companies and the Western Electric Company requires that the prices charged by the Western Electric Company for telephonic appliances manufactured by it shall be standard and uniform to all licensees of the American Bell Telephone Company.

A study has been in process to check the operations of this requirement for the 10 years 1910 to 1919, inclusive, and findings can

now be made from the reports for ten companies.

In making this study, advantage was taken of the copies (on file at New York) of the replies by Bell System Companies to the Interstate Commerce Commission under Valuation Order 18. This order required the companies to file price data for the maximum purchases of certain classes of items during each half

year from 1910 to 1915, inclusive.

Fifty-three of the most important items of apparatus covered by the Valuation Order were selected, thus assuring the impartiality of the study, and the standard prices to the Associated Companies for them (or items superseding them) were obtained for the years 1910 to 1919, inclusive. These items and prices are shown on the attached photostat chart.

For the years 1910-1915 each item for each year was checked against the prices reported in the replies under valuation Order 18. Discrepancies, if any, were traced back for verification to the original

paid bills in the files of the telephone company.

For the years 1916-1919 each item for each year was checked directly against the paid bills in the files of the Associated Company or against records developed therefrom. Discrepancies, if any, were traced back to the original bills.

The results of the study were as follows:

Company.	Number of items checked.	Number of errors in pric- ing.
Southern New England Tel. Co	400	0
New York Telephone Company	482	0
Bell Tel. Co. of Pennsylvania	611	0
Diamond State Tel. Co	376	0
Chesapeake and Potomac Tel. Co	297	0
Southern Bel. Tel. and Tel. Co	560	0
Cumberland Tel. and Tel. Co	524	3
Central Union Telephone Company	624	4
Mountain States Tel. and Tel. Co	825	1
Pacific Tel. and Tel. Co	594	1
		_
Total	5,293	9
Number of errors per 1,000 items checked		1.7

The above percentage of error in pricing is, in my opinion, very low, and in no case was there anything to indicate that the incorrect price was other than a clerical error. The investigation to

date, therefore, indicates that the Western Electric Company has for the last ten years complied with the section of the contract requiring uniform prices to licensees of the American Bell Telephone Company.

Yours truly,

E. V. COX, Supply Contract Auditor.

1687 PLAINTIFF'S EXHIBITS Nos. 146 to 162, INCLUSIVE.

W. O. Pennell, Witness.

No. 146.

"Licensee Contract Between American Telephone & Telegraph Company and Southwestern Telegraph & Telephone Company (Texas) Up to February 10, 1920.

This exhibit consists of 112 pages of type-written matter, being copies of the original Lisensee Contract entered into between The American Telephone & Telegraph Company and The Southwestern Telegraph & Telephone Company, together with all letters and memoranda supplementing the original agreement, the last letter being dated December 19, 1917.

On pages 48 to 53 inclusive are copies of letters issued by the American Bell Telephone Company between the dates of June 30, 1885 and July 1, 1887, outlining the terms under which the Licensee companies could then obtain instruments from the American Company. This was prior to the organization of The Southwestern Telegraph & Telephone Company. At this time a company,

known as the Erie Company operated in the State of Texas.

On pages 1 to 45 inclusive is a copy of the original agreement entered into on July 27, 1889 between the American Bell Telephone Company and The Southwestern Telegraph & Telephone Company, which latter company took over the operation of the Bell properties in Texas in 1889. By virtue of this contract the American Company acquired 30% of the stock of The Southwestern Company. The contract provided that the Southwestern Company should pay the American Company for the use of such Telephone instruments as were furnished by the American Company. Payment was to be made in accordance with the class of subscribers by whom the Telephone instruments were used as follows:

Form 109-D-Contract for Exchanges, shown on pages 8 to 21 inclusive of the exhibit.

Form 113-D-Contract for Extra-territorial connecting lines,

shown on pages 22 to 34 inclusive of the exhibit.

Form 116-C—Contract for Private Lines and Other Purposes, shown on pages 35 to 45 inclusive of the Exhibit.

Inasmuch as most of the instruments were used in exchanges, attention is called to pages 13 and 14 of the exhibit outlining the method of payment for such instruments which was figured as follows .

Rental for transmitter for year. . \$10.00 Rental of Receiver (called magneto telephone) per year... 10.00

Total per year \$20.00

The Southwestern Company paid The American Company 70% of \$20,00 or a total per set per year of \$14.00.

On pages 54 to 71 of the exhibit are copies of letters outlining new terms of payment, being reductions made in 1894 and 1895 in the payment. Under the terms then put into effect, the payment was made dependent upon the rates paid by the telephone subscribers. At this time the American Company owned 30% of the stock of the Southwestern Company.

On pages 72 to 78 of the exhibit are copies of letters, outlining a further reduction in the payment made effective in 1898. At this time the American Company owned 30% of

the stock of the Southwestern Company.

On pages 79 to 103 of the exhibit and on pages 46 to 47 are copies of letters and agreements covering the method of payment put into effect January 1, 1902, according to which the payment was figured as 41/2% of certain gross revenues. This method brought about another reduction in the amount paid by the Southwestern Company to the American Company. The following quotation from page 99 shows what revenues are considered in determining the payment: "The Total gross earnings, for the purpose of determining the

amount of which you pay us 41/2%, shall comprise the accounts described and defined in our Accounting Circular #8 as follows:

Account 500-Subscribers' Station Revenues.

Account 501—Public Pay Station Revenues.
Account 504—Private Exchange Lines.
Account 510—Message Tolls.

From the total of the foregoing shall be deducted

Account 304—Uncollectible Operating Revenues."

On pages 104 to 109 are copies of letters covering the agreement on the part of the American Company to furnish the Southwestern Company vacuum tube repeaters without specific charge therefor in addition to the regular 41/2 % payment.

The following is an exact copy of this exhibit:

This agreement made this twenty-seventh day of July 1889 1690 by and between the American Bell Telephone Company, a corporation created under the laws of the Commonwealth of Massachusetts of the first part, and The Southwestern Telegraph and Telephone Company, a corporation created under the laws of the State of New York, of the second part. Witnesseth:

Whereas the second party has certain license contracts issued by said The American Bell Telephone Company (a schedule of which

contracts is hereto annexed marked "A") and

Whereas said second party desires to surrender said several license contracts and to have certain other license contracts as hereinafter set forth, and the first party has agreed to accept such surrender and to enter into such other license contracts as hereinafter set forth.

· Now, therefore, it is agreed as follows, that is to say:

1. Conditional upon said second party owning and controlling all and singular any plants, properties, franchises and rights of every name and nature built, acquired or used, under or by virtue of or for any use in conducting any business done or to be done under said license contracts so to be surrendered, or any of them, and standing in the name of said second party or any other name, or operated by said second party or by other parties, and all income and revenues therefrom and thereunder, and

Conditional upon said second party forthwith surrendering and giving up to said first party said several license contracts named in schedule A, and all and singular the rights of it, said second party,

or of other parties in, to and under the same.

2. Said first party agrees that it will accept such surrender and that it will thereupon enter into the following described agreements with said second party, that is to say:

(a) license contract for exchange purposes—Form 109-D, hereto annexed marked "B."

- (b) license contract for extra-territorial connecting lines, Form 113-D, hereto annexed marked "C,"
- (c) license contract for the supply of telephones for private lines and other purposes, Form 116-C, hereto annexed marked "D."

But said second party shall assume and perform any and all contracts with subscribers made under said license contracts or any or either of them so to be surrendered and existing at the time of such surrender and shall hold all telephones furnished thereunder by said The American Bell Telephone Company (schedules of which said telephones are hereto annexed marked "E"), as the property of said The American Bell Telephone Company and each under the license contract for like purposes as that under which it was originally furnished, so to be made with it said second party and with like effect as if actually furnished thereunder, except that rental and royalty thereon shall begin at the date of such new license contracts.

3. Whereas it has been and is agreed that said first party in consideration of the premises shall be entitled to and have thirty hundredths (30-100) interest in all and singular the property, rights, business and property of said second party, as the same stood on July 1, 1889, to be paid as hereinafter specified, and that such interest shall not be required to contribute to the expense of developing the territory of said second party nor to the payment of liabilities incurred on account thereof before the first day of June 1891.

Now therefore, for the accomplishment of said purpose and in consideration of the premises, the second party shall forthwith upon

the execution of said license contracts furnish and pay to said
The American Bell Telephone Company thirty hundredths
(30-100) of its capital stock as the same shall stand fixed at
the date of such payment, all such stock to be lawfully issued, full

paid and not subject to any assessment or contribution.

4. Said The American Bell Telephone Company agrees that it will release to said second party from time to time its claim as holder of such stock to dividends which may be declared thereon before the first day of June 1891 of net earnings actually received before that date.

In computing net earnings out of which dividends may be declared before said first day of June 1891 there shall be deducted besides all sums necessary for the current expenses of the business, all sums necessary for the maintenance and extention of said second party's lines, instruments, plant and business in the best condition, which sums shall not at any time become the subject of dividends, but this stipulation and such release shall not impair or affect in any manner any other of the rights of said The American Bell Telephone Company as a stockholder, and on said first day of June 1891, the second party shall be free from debt or liability without said The American Bell Telephone Company contributing in any manner to the payment thereof.

- 5. From time to time, if and whenever a further issue shall be made, whether or the present authorized capital of it, said second party, or of any increase thereof, except as provided in Article 11, the first party shall have the right and option to call for and take an amount of such stock proportionate to that which may have been subscribed for, taken by or issued to other stockholders or others, in the ratio of its then holdings to the holdings of other stockholders before such increase or issue and upon the same terms and at the same prices.
- Said second party shall not borrow money for extension of its business nor for any other purpose without the consent of said The American Bell Telephone Company.
- 7. Said second party shall assume and pay any and all taxes, whether municipal, county, state or other, on or on account 1693 of or by reason of the instrument leased or business done under said license contracts to whomsoever assessed, but this stipulation shall not be held to include the tax assessed by the State of Massachusetts on the corporate franchise of said The American Bell Telephone Company.
- 8. Said second party shall keep books and accounts of its business according to forms furnished by said The American Bell Telephone Company, which books and accounts shall be open to inspection at all reasonable times by any authorized agent of said company, and shall make reports to it embodying such information as and in such form as it may from time to time desire.
- Said The American Bell Telephone Company shall have two representatives on the Board of Directors and one representative on the Executive Committee of said second party.
- 10. Touching certain telephones on which the second party during a certain period paid the first party royalty, but during such period received no compensation for their use by certain subscribers at certain exchanges, respecting which the second party has, from time to time, presented to the first party certain claims, the first party will, if this agreement be ratified as herein provided, allow the second party a rebate on such royalty to an amount not exceeding fifteen thousand dollars, which amount shall be a full and final settlement of all such claims.
- 11. The first party consents that the exchange sub-licenses made by the second party (a schedule of which is hereto annexed marked "F") may continue in force until their expiration or earlier termination, on condition that each of such sub-licenses shall, before December 31, 1889, be in such form and so executed as the first party shall approve, and that a certified copy of each shall be furnished to the first party before said date; but the second party agrees to acquire and own at or before the expiration of each of such sub-licenses, all and singular the property, plant, rights and business owned or

operated thereunder, without the first party contributing in any manner to the payment thereof, but if they or either of 1694 them shall be acquired by increase or issue of capital stock above two million (\$2,000,000) dollars, the second party shall furnish and pay to the first party an amount of such stock equal to thirty seventieths (30-70) of such increase or issue, lawfully issued, full paid and not subject to any assessment or contribution.

12. The second party shall submit this agreement to its stockholders for ratification at a meeting to be duly called and held on or before September 7, 1889, and if such ratification shall not be procured at such meeting and a properly certified transcript of the records of such meeting delivered to the first party within five days following the date of such meeting and all acts and things necessary to qualify the second party to claim in full the benefits of this agreement done on or before September 30, 1889, in a manner satisfactory to the first party, then at the election of the first party, made at any time after said date, this agreement shall be void.

In witness whereof the parties hereto have caused their respective corporate seals to be hereto affixed and these presents to be signed in duplicate in their names and behalf by their respective officers thereto duly authorized.

THE AMERICAN BELL TELEPHONE COMPANY.

(Sd.) C. J. F. (Sd.) By W. H. FORBES.

SEAL. Member of the Executive Committee. THE SOUTHWESTERN TELEGRAPH

AND TELEPHONE CO., (Sd.) By LEVI SPRAGUE,

President. (Sd.) CHAS. J. GLIDDEN. SEAL.

Secu.

1695 Form 109-D.

Contract for Exchanges.

This agreement, made this Twenty Seventh day of July A. D. 1889, by and between the American Bell Telephone Company, a corporation created under the laws of the State of Massachusetts, Lessor and Licensor, party of the first part, and The Southwestern Telegraph and Telephone Company, a corporation created under the laws of the State of New York, Lessee and Licensee, party of the second part, Witnesseth:

(1) Whereas, the Lessor owns the Letters Patent of the United States granted to Alexander Graham Bell, March 7, 1876, and January, 30, 1877, numbered 174,465, 186,787 respectively, and owns or has the right to use, and may hereafter own or have the right to use, sundry other inventions, which are or may be embodied in electric speaking telephones, and desires to extend the use of telephones licensed by it in every manner in which the public may wish to use the same, and for that purpose to provide for the construction and use of the apparatus and lines necessary to be used in connection therewith; and whereas the Lessee desires to obtain the use of telephones under lease and license from the party of the first part to be used with the lines of telephonic district or exchanges systems established and owned by it in the territory hereinafter described under the provisions hereinafter set forth; now it is agreed as follows:

(2) The rights hereby granted shall be perpetual unless determined as hereinafter provided, and shall extend to all Exchanges established and owned by the Licensee, and wholly within the following described territory, namely: The States of Arkansas and Texas.

(3) For the purpose of this contract on "Exchange," or "a district or exchange system" means a system in which different stations on the same or different circuits, and either within any city or town, or within a radius of fifteen miles of a central office, are

1696 connected with such central office or branch offices, for the purpose of placing subscribers or other parties by such circuits in communication with such central or branch offices, or with each other, either directly or through the agents of the system. No office or line of an Exchange can be connected with any point outside of its territory, nor with any telegraph company's office or line, except by lines of the Licensor or parties specially designated by it for this purpose, nor, except in connection with such lines, can the lines of an Exchange be used for performing any part of the work of transmitting messages by telephone to points outside its territory, and no telegraph company, unless specially permitted by the Licensor, can be a subscriber or use the system to collect and deliver messages from and to its customers, nor shall any person use the same telephone in connection with different exchange systems.

(4) The Licensor, at its general office or factory, will deliver to the second party, as needed, electric speaking telephones, made and to be used under its patents, during the existence of the rights hereby granted and as herein set forth and permitted, and all telephones delivered to the second party during the continuance hereof shall be deemed to be furnished hereunder, unless otherwise specially designated by the Licensor. They will be of such character and pattern and bear such marks as the Lessor shall from time to time determine, but the second party may choose from among such standard patterns. Each of said telephones shall remain the property of the Licensor, and is hereby leased, and the use of it licensed under said patents and all others under which the Lessor has or may have a right to license, so far as applicable thereto, for the purposes herein declared for the term of one year from the day when rent and royalty begin to accrue on it as provided in Article 8, but the due payment thereof to the Licensor, and the due performance of the stipulations hereof during said year, by the second party and those using the telephone under it, shall ipso facto operate to renew the lease and license for another year, and so on until the expiration or other determination hereof; the second party is

hereby licensed to use said telephones for any purpose, upon circuits exclusively composed of the lines of any such exchange system, and to use them in connection with the trunk lines reserved to the licensor by Article 9, for the purposes and to the extent therein limited, during the term hereby created, upon condition and so long as the rental therefor shall be duly paid to the Licensor and as the provisions hereof are not violated, but not longer or otherwise; and it may grant said right to its customers by contracts as provided in Article 7.

The Lessor will not license any telephones to be used by others upon an exchange system within said territory while the rights of the second party hereunder exist, except telephone to be used on the lines of Exchanges having their central offices outside said territory by persons within said territory who are or may be subscribers to or customers of such Exchanges; but the second party shall, by general or special exchanges, supply (so far as it is authorized so to do by this contract) all reasonable demands of the public, and shall be diligent to increase the number of telephones used on its exchanges. All rights not hereby specifically granted remain to the Licensor.

(5) The Lessor will license to be used with such telephones, the inventions in call-bells, switches, switch-boards, and other apparatus needed for such telephone lines, which it can so license, upon such royalties as it may from time to time establish, not greater than those fixed for others under similar circumstances; but such callbells, switches, switch-boards and other apparatus shall be used only with telephones licensed by the Lessor, and the second party agrees not to use them otherwise nor to dispose of them to any one except those so licensed, or to the licensed manufacturers of the Lessor. The second party may enjoy any rights of way and similar franchises

to maintain said lines which the Lessor can permit it to use, 1698 when and so long as, in the judgment of the Lessor, it shall not interfere with the Lessor's enjoyment thereof, and shall pay whatever may be due to third persons, if anything, growing out

of or in connection with such use by it.

For trunk lines from the several exchange offices to points outside of the respective exchange District and to telegraph offices, the Lessor may, without further compensation, enjoy all rights of the Licensee to erect and maintain lines, and may use its poles and fixtures, but shall pay a pro rata share of the cost of erecting and maintaining them

(6) The Lessee admits the validity of all patents relating to tele-phony and telephonic appliances now or hereafter held by the Licensor or under which it may hold licenses exclusive in their character, and the validity of its title thereto, and will not dispute the same, nor make, use, or be interested in any telephones or telephonic lines or business not licensed by the Licensor or its assigns.

(7) The contract between the second party and these who are to use telephones under it, as herein provided, shall express in such form as the Lessor shall from time to time approve, that the telephone is the property of the Licensor; that it is leased and licensed by it only as herein expressed; that all use of it otherwise is an injury to and invasion of the rights of the Licensor as owner thereof and of the patent rights used therein and thereby, entitling it to all the remedies herein provided and to an injunction, and other legal redress, in a suit by it in its name and behalf. party shall require every person using said telephones for communications or messages sent or to be sent over other telephone or telegraph lines, to provide for payment of tolls thereon, and to make every such message subject to such stipulations, regulations, and conditions respecting the liability of such lines for errors and mistakes as the Licensor may from time to time require, and for that purpose will incorporate into its subscription contracts and

1699 message blanks such provisions and contracts, to be agreed to
by the subscriber and customer, as the Licensor may from
time to time approve, and will hold the Lessor harmless from all

loss and expense consequent upon its failure so to do.

(8) The second party shall charge subscribers to its Exchanges such rental and royalty for the telephones as the Licensor may fix from time to time, for these and other like exchanges, and also in addition a sum not exorbitant nor unusual for the use of call-bells batteries, wires, and other appliances, and for services furnished or performed, and may collect both of said sums for a period not exceeding one year in advance. It will make such reports, giving such information regarding the operations of its Exchanges and the prices charged as the Licensor may from time to time request. It shall pay to the Licensor a rental and royalty at the rate per instrument of Seventy (70) per cent, of the telephone rental and royalty fixed as above (being a discount of Thirty (30) per cent) to commence on each telephone on the first day of the second calendar month after its shipment by the Licensor, to continue until the instrument shall be put into the possession of the Licensor, or proved to be destroyed, and to be paid in equal monthly payments in advance, at the Licensor's office, on the tenth day of each month up to the last day of the same month. Until otherwise fixed, the rates shall be as follows:

Battery transmitter, each instrument per year..... \$10.00 Magneto-telephone, each instrument " " \$10.00

Upon each instrument unlawfully detained from the Lessor, the second party shall pay ten dollars per month until satisfactory proof of its destruction be furnished; shall pay five dollars for each lost or destroyed otherwise than by fire or inevitable accident, and shall pay the expenses of ordinary repairs; but said payments shall not confer any right to the instrument, nor to its use, nor satisfy any other breach of covenant, nor impair the right of the Licensor to obtain possession of any instrument or lines.

(9) The Licensor may enter the offices and connect with the exchange systems of the second party any lines to points without the territories of such Exchanges respectively, and to telegraph offices, in order to establish communication between customers of the Exchanges and telegraph companies or parties reached by said lines, and may there operate said lines with suitable appliances; the second party will permit and encourage its customers to use such lines, and by its own operators will receive and transmit such messages to and from its customers and subscribers, or make the proper switch-board or other connections for direct communication, as may be requested, and in such manner, not inconsistent with the proper conduct of its office, as the Licensor shall direct. But if the Licensor is not satisfied with the manner in which it is performed, it may establish its own offices and trunk and radiating lines for this purpose. The second party will not, without special leave of the licensor, so far as it can lawfully prevent it, permit the transmission over such connecting lines of general business messages, market quotations, or news for sale or publication, nor any communications in behalf of other parties than those who directly communicate by the telephone by themselves or their servants or agents personally present at the instruments, and no person engaged in the business of transmitting messages for other parties shall be authorized or knowingly allowed by the second party to transmit such messages over such lines. The second party will cause each of its Exchanges to turn over and deliver to the Licensor and such parties as it may from time to time appoint, exclusively, all messages for electrical transmission to points outside the territory of such Exchange collected by or coming on the wires or within the control of the Exchange, where the Licensor or such party has wires and will transmit the same so far as the second party can lawfully control the same, and unless otherwise specially directed by its customers; but will not solicit such special directions, nor receive and pay tolls for transmission over other lines, unless compellable by law so to do. It shall keep and furnish an account of each such message transmitted or received, and of connections made therefore, and shall collect and on demand pay over to the Licensor or its 1701 said appointees, respectively, the tolls for transmission beyond the exchange system, according to such rates and rules as each shall establish, and shall exhibit its accounts and the tickets from which they are made, so far as may be proper to verify the Each Exchange shall, if and when so requested by the licensor, make proper switch-board or other connection between the lines of the Licensor or its Licensees from points without its exchange district and terminating in such exchange office, for the purpose thereby of making up a through line between points without such exchange district. In respect of all the business provided for by this section, the second party shall make no charge to its own subscriber or customer, but shall make the following charges and none others: the second party shall receive upon communications originating within an Exchange and passing over the lines of the Exchange and the extra-territorial lines by direct connection, fifteen

per cent of the gross tolls on the extra-territorial line not to exceed five cents for any one message or communication occupying not more than five minutes; in case an Exchange shall be required to make a switch-board connection for the purpose of making up a through line between points without its exchange district, then the Exchange shall receive as compensation for making such connection, such share of the through toll (terminal expenses being first deducted) as may be agreed upon, not however a greater share thereof than ten miles is of the whole length of the through lines so made up, and not in any event to exceed five cents for any one communication occupying not more than five minutes; upon messages collected by an Exchange over its lines or otherwise and forwarded by telegraph, the Exchange shall receive fifty per cent of the commission paid to the Lessor by the telegraph company, and the whole of the compensation for messenger service paid by the telegraph company; for delivering telegraph messages by telephone to subscribers, and Exchange may have free use of the Lessor's line to the telegraph office,

when such use does not interfere with the proper despatch of outgoing business, and may receive from the telegraph company the whole of such compensation as it and the telegraph company may agree upon; for messages delivered by messenger for the telegraph company, it may receive the whole compensation. The Licensor now appoints the Western Union Telegraph Company to perform all telegraphic transmission under this article.

(10) If the second party shall fail to pay any sums due hereunder for thirty days after the same shall become payable, or shall violate any other terms or conditions of this cont-act, or of a contract preliminary hereto between the same parties dated July 27th, 1889, and shall persist in such default, violation, or neglect, or fail to remedy or repair the same for sixty days after written notice thereof from the Licensor, or shall become bankrupt or insolvent, the Licensor may, if it shall so elect, by written notice to the second party (or those in charge of any of its offices), terminate all rights granted by the Lecensor hereunder, and thereupon may by its agents sever the circuit on which any telephone is placed, and take possession of and remove the telephone, and for that purpose may enter the premises of the second party and all persons claiming under it; or it may collect, from any sub-lessee or subscriber, all sums then or thereafter due to it or to the second party for the use of any instruments, circuits, and appliances, or under any subscription contract; or it may, so long as it shall see fit, leave in the enjoyment and use of the telephones any subscriber or other person in actual possession, and collect from him such sums as may then and thereafter be or become due for the use of the telephone and exchange lines, appliances, and services, and for that purpose shall be entitled to and may take possession of all the lines, fixtures, apparatus, appliances, and premises of the second party used for carrying on its business, and occupy and operate the same in connection with said telephones and those of additional customers as exchange system,

or connect such lines with offices of its own for that purpose; the Licensor shall have the like right upon and within three months after the termination of the rights of the second party hereunder by efflux of time or otherwise; and may enforce these provisions by an entry, without being deemed guilty of any trespass, or by legal process, including an injunction to prevent any interference with the Licensor (and others permitted by it) in the use of said telephones, lines, switch-boards, and appliances. property as taken, and which does not belong to the Lessor or revert to it hereunder, may be returned within three months from the taking, in which case it shall pay to the second party a reasonable compensation for its use, or the Lessor may retain the same as it own property and shall pay therefor a reasonable price (not exceeding the actual cost) within four months after the taking, and shall account to thes second party for all sums collected, which accrued before the Licensor became so entitled to possession, deducting all expenses incident thereto and all that may be due it. The Lessor also reserves all its right and remedies in law and in equity, under the patent laws or otherwise, including the remedy by injunction against the second party or those claiming under it, for the use of any of its patented inventions or instruments not justified by a subsisting license hereunder, or for the violation of any other of its rights. These rights and remedies of the Lessor shall, in case of any default, if the Lessor shall so elect, apply only to the Exchange or Exchanges in which such default has occurred. The Lessor may also use the name of the second party to protect its interests and to enforce its rights hereunder, and the second party shall execute assignments in accordance herewith.

(11) This contract is personal to the second party herein named, and any assignment or attempt to assign it, or the rights granted or lines established hereunder or any or either of them, by act of the party or operation of law, without the written consent of the Licensor, will be violation hereof, and a good ground for a cancellation hereof by the Licensor; The party of the second part promises that it will keep and observe all the stipulations herein contained on its part to be kept and performed. Whenever the Licenson is the stipulation of the second part promises that it will keep and observe all the stipulations herein contained on its

part to be kept and performed. Whenever the Licensor grants to others the rights for connecting lines or any other rights remaining to it, the stipulations hereof relating hereto shall be binding upon and enure to the benefit of such grantees, and the Licensor shall not be responsible for their acts or defaults. If the Licensor shall transfer to any party who shall agree to perform the stipulations hereof its title to the telephones hereby leased and the patent rights under which they are licensed, and its then existing interests hereunder, it is agreed that the provisions hereof enure to the benefit of and are binding upon such party in respect of all things done or to be done after such assignment, as if it were named a party hereto, and this said American Bell Telephone Company shall no longer be responsible hereunder.

The Licensee also agrees that it will not allow any telegraph company to use or to have any rights, or poles or other structures leased

or put up by or belonging to or under the control of said Licensee without the written assent of the said American Bell Telephone

Company.

Touching the lines which the first party may desire and direct to be built connecting the Exchanges of the second party with the Telegraph Offices of the Company or Companies which the first party may appoint to receive the telegraph messages to be turned over by said second party.

Whereas the first party has at the request of the second party in consideration of its undertaking hereinafter in this paragraph contained consented to increase the part to be paid the Exchange of the commission paid the first party by the Telegraph Company upon messages turned over from Twenty-five (25) per cent to Fifty (50)

per cent thereof:

Now the second party in consideration thereof agrees that it will at its own cost and without charge or expense to said first party build, equip and maintain such lines and furnish all instruments necessary to be used for the operation thereof, except telephones to

be used in the telegraph office, but that such lines when 1705 built shall become and remain the property of said first

party.

Discount on telephones as given in surrendered contract (as per

Exhibit A) to continue until June 1st, 1891.

*The following erasures viz: eight(8) words on line 22, two (2) letters two (2) figures and one (1) word on line 23, ten (10) words and one (1) figure on line 56, one (1) word on line 170, four (4) words on line 217, all the words on lines 218 and 219, and six (6) words on line 220, and the following interlineations viz: "fifty" on line 170 and "or of a contract preliminary hereto between the same parties dated July 27th 1889" on line 179, were made before signature by either party.

Signed in duplicate on the day first above written.

[Seal A. B. T. Co.]

THE AMERICAN BELL TELEPHONE CO.,

(Sd.) By JOHN E. HUDSON,

(Sd.) C. J. F., President.

[Seal Sowestn. Co.]

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE CO.,

(Sd.) By LEVI SPRAGUE,

Prest.

(Sd.) CHAS J. GLIDDEN,

Secy.

^{*}This paragraph refers to interlineations in the printed form on which the original agreement was made.

Form 113 D.

Contract for Extraterritorial Connecting Lines.

This agreement, made this Twenty Seventh day of July, A. D. 1889, by and between the American Bell Telephone Company, a corporation duly formed under the laws of Massachusetts, Lessor and Licensor, of the first part, and the Southwestern Telegraph and Telephone Company, a corporation created under the laws of the State of New York, Lessee and Licensee, of the second part, witnesseth .

1. Said Licensee desires to obtain the right to use upon lines between telephonic exchange districts established or which may be

established in the following described territory, viz:

The State- of Arkansas and Texas, telephones to be obtained from from the Lessor and under lease- and license from it, under its two patents granted Alexander Graham Bell, No. 174,465, dated 1706 March 7, 1876, and 186,787, dated January 30, 1877, and

under other patents which it may hereafter own or have the right to use, applicable thereto; and also to avail itself of and enjoy the right of connecting with the exchange systems established within said territory, as provided and stipulated in favor of the Lessor in its exchange contracts for these systems, (copies of which stipulations have been furnished to the Licensee, and the terms of which he is to conform to so far as they relate to business to be done hereunder) and of connecting with exchange systems which may hereafter be established in exchange districts in said territory, under contracts to be made by the Lessor therefor, to contain stipulations substantially like those in the Lessor's Standard Form 109 C, a copy of which has been furnished to the Lessee, and wishes to use, and allow others to use, said lines for personal communication between persons in different exchange districts in said territory; now it is agreed :

(2) Said second party shall by the establishment of such lines. so far as it is authorized so to do by this contract, satisfy all reasonable demands of the public therefor, and shall be diligent to increase the number of its said lines.

The rights hereby granted to the Lessee shall be perpetual unless

determined as hereinafter provided:

3. The Lessee may construct lines between exchanges in said territory, and may use such lines for telephonic personal communication between a customer in one such exchange district and a customer in another such exchange district, and not otherwise, except in connection with lines mentioned in Article 6 hereof owned or specially licensed by the Lessor, and by it designated for that purpose, and then only as and for the purposes expressed in said Article 6. The Lessee shall not directly or indirectly connect its lines with any telephone or telegraph line or telephone exchange, except lines

with which it has been by the Lessor specially authorized to connect; nor deliver messages to be forwarded to designation by telegraph to any telegraph company, except such as may be specially

designated by the Lessor for that purpose, so far as it can 1707 lawfully control the same, or unless specially directed by a customer so to do (but it will not solicit such special direction nor receive and pay tolls over other lines unless compellable by law so For the purpose of establishing telephonic personal communication between customers as aforesaid, the Lessee may have and exercise all the right to construct and operate telephone lines in said districts, and there maintain suitable offices and connect with exchange systems established or to be established, as aforesaid, which the Lessor has reserved and is or may be entitled to grant for extraterritorial connecting lines under licenses to exchanges made or to be made as aforesaid; but the Lessee shall connect with each local exchange and do its business so far as the same can, in the opinion of the Lessor, conveniently be so done, with the customers thereof through said exchange, unless the American Bell Telephone Com-

pany, or its successors, shall decide that the exchange fails to furnish proper facilities, for the purpose of this contract an exchange district means a territory, not to cover more than a single town or city, or a circle of fifteen miles radius measured from a central point, which the Licen or has included and covered or may hereafter

include and cover in and by an exchange license.

4. The Licenser, at its general office or factory, will deliver to the Lessee, as called for, electric speaking telephones, made and to be used under its patents during the existence of the rights hereby granted and as herein set forth and permitted, and all telephones delivered to the Lessee during the continuance hereof shall be deemed to be furnished hereunder, unless otherwise specially designated by the Licensor. They will be of such character and pattern and bear such marks as the Lessor shall from time to time determine, but the Lessee may choose from among such standard patterns. Each of said telephones shall remain the property of the Licensor, and is hereby leased, and the use of it is hereby licensed for the purposes herein declared for the term of one year from the day when rent and royalty begins to accrue on it, as herein provided:

but the due payment thereof to the Licensor, and the due performance of the stipulations hereof during said year by the Lessee and those using the telephone under it, shall ipso facto operate to renew the lease and license for another year, and so on until the determination hereof. The licensee shall pay to the Licensor seventy (70) per cent of the telephone rental and royalty which shall be fixed from time to time by the Licensor (being a discount of Thirty (30) per cent), to commence on each instrument on the first day of the second calendar month after its shipment by the Licensor, to continue until the instrument shall be put into the possession of the Licensor, or proved to be destroyed, and to be paid in equal monthly payments in advance at the Licensor's office, on the tenth day of each month up to the last day of the same month. Until otherwise fixed, the rates shall be as follows:

Battery transmitter, each instrument per year. \$10.00 Magneto-telephone, each instrument " " \$10.00

Upon each instrument unlawfully detained from the Lessor, the Lessee shall pay five dollars per month until satisfactory proof of its destruction be furnished, and five dollars for each lost or destroyed otherwise than by fire or inevitable accident, and shall also bear the expense of ordinary repairs; but said payments shall not confer any right to the instrument, nor to its use, nor satisfy any other breach of covenant, nor impair the right of the Licensor to

obtain possession of any instrument or lines.

5. The right and license hereby granted is the right and license to use said telephones to carry on personal communication, upon their own business, by and between customers, and their employes personally present at instruments in different exchange districts within the territory above described, over circuits composed exclusively of said authorized lines owned by the Lessee and the lines of the exchange licensed by the Licensor, and with which the Licensee is authorized to connect as aforesaid, and between any such customer and a customer so using the telephone in a place

with which the second party is not hereby authorized to con-

nect, by means of such lines of the Lessee, and other lines and instruments specially licensed by the Licensor therefor; but the telephones furnished hereunder are not to be used to connect parties in the same exchange district, nor for the transmission of general business messages, market quotations, or nows for sale or publication, in competition with the business of any telegraph company; and the Lessee, so far as it can lawfully and properly prevent it, will not permit the same to be so used. The term "general business messages" is defined to mean all communications in behalf of other parties than those who directly communicate by the telephone by themselves or their servants or agents personally present at the instruments, and no person engaged in the business of transmitting messages for other parties shall be authorized or knowingly allowed by the Lessee, its servants or agents, to transmit such messages through the telephone. The Lessor will not furnish or license telephones to any other party to establish such personal communication between persons in different exchange districts, both of which are within said territory, while the rights of the Lessee hereunder exist, except so far as the Lessor's existing contracts with the Western Union Telegraph Company, and with others, may require it so to do, or as it may see fit so to do under contracts hereafter to be made for private, club, social, and other lines substantially as defined in its Standard Form No. 116 B, but the Lessee shall furnish sufficient general lines for general customers, and special lines for individual or associated customers, between exchange districts throughout said territory, and for the purposes aforesaid, at prices which shall be reasonable under the circumstances hereunder.

6. The Lessor will license to be used with such telephones the inventions in call bells, switches, switch-board, and other apparatus needed for such telephone lines, which it can so license, upon such

royalties as it may from time to time establish, not greater

than these fixed for others under similar circumstances, but such call bells, switches, switch-boards, and other apparatus shall be used only with telephones licensed by the Lessor, and the Lessee agrees not to use them otherwise, nor to dispose of them to any one except to those so licensed, or to the licensed manufacturers of the Lessor. The Licensee may enjoy any rights of way and similar franchises to maintain said lines which the Lessor can permit him to use, when and so long as, in the judgment of the Lessor, it shall not interfere with the enjoyment thereof by the Lessor or its other grantees, and shall pay whatever may be due to third persons, if anything, growing out of or in connection with such use by it. The Lessor reserves the right to use telephones on lines passing over the routes or any or either of them of the lines hereby licensed, and connecting, with each other or with said exchanges, places with which the Lessee is not hereby authorized to connect, for the purpose of establishing personal communication or transmitting messages between such places and between such places and said exchanges. and, to establish lines for that purpose, may enjoy any rights of the Lessee to erect and maintain lines, and may string its wires on the poles of the Lessee, paying therefor a pole rental of \$4.00 per mile per annum for each wire. The Lessee will also allow the Lessor to connect the wires of any such lines with its said lines in order to constitute thereby a through line, of which the Lessee's lines or any or either of them or any part of either of them can form a portion or link, in order to forward through messages, will make or permit to be made convenient switchboard or other connections for that purpose, and as compensation therefor will take a share of the through toll (terminal expenses being first deducted) pro rata according to distance, not greater than that customarily charged by it for like distance, and will also allow any telephone exchange to be designated by the Lessor to connect with its lines for the purpose and substantially in the manner described in said Standard Form In respect of all communications originating on its lines and which are to be forwarded over any other lines, the Lessee shall require the customer or subscriber to bind himself by and make every message subject to such contracts, stipula-

and make every message subject to such contracts, stipulations and limitations of liability of such other lines as the Licensor may from time to time require, in such form as it may from time to time prescribe, and will hold the Lessor harmless from all loss or expense consequent upon its failure so to do.

7. The Lessee admits the validity of all patents relating to telephony and telephonic appliances, now or hereafter held by the Licensor, or under which it may hold licenses exclusive in their character and the validity of its title thereto, and will not dispute the same nor make, use, or be interested in any telephones or telephonic lines or business not licensed by the Licensor or its assigns.

8. The Lessee will pay to the exchanges established, or which may hereafter be established, and with which it shall connect as aforesaid, such sums as such exchanges are or shall be entitled to receive under their exchange contracts, made or to be made, for making connections with extra-territorial lines. And the Lessee will also pay to the Lessor, in addition to said telephone rental and royalty, and in consideration of the further rights and privileges hereby granted, fifteen (15) per cent of the Lessee's gross receipts from subscriptions and tolls (which tolls shall not be less than at the rate of fifteen cents for the first ten miles or fraction thereof and five cents for each additional ten miles or fraction thereof for a communication occupying not more than five minutes), and from other sources, after deducting for terminal expenses such sums as it may have to pay to the terminal exchange not exceeding those chargeable under exchange contracts made or to be made by the Licensor as aforesaid. Said payments are to be made to the Lessor at its office on the tenth day of each month, upon all receipts up to the first day thereof. The Lessee shall keep full accounts of such receipts and payments, furnish copies thereof to the Licensor upon request, and exhibit its original accounts and youchers so far as may be proper to verify the same.

- 9. The lines to be built hereunder shall be sufficient and suitable for the purposes contemplated hereby.
- 1712 10. The Lessee may place the telephones furnished hereunder in its own offices, for use, by general customers, as herein stated and limited, or may place them under subleases and licenses in connection with its lines, on the premises of subscribers or special customers for such use. Such subleases and licenses shall, in such form as the Licensor shall from time to time approve, express the title of the Licensor to the Telephone and the patents, the extent of the license hereby granted, the purposes for which the telephone may be used, that any other use of any telephone by any person, or non-payment of the rental and royalty to the Licensor, is an injury to and invasion of its rights as owner thereof and of the patent rights used therein and thereby, and entitling it to all rights and remedies in law and in equity, under the patent laws and as herein expressed otherwise, including the remedy by injunction against the person in possession thereof, and all others who have misused the same as aforesaid for any use not justified by a subsisting license, or for the violation of any other of its rights. It may also enforce against such sub-licenses all rights and pursue all remedies given by and under such sub-license, and may use the name of the Lessee for such purpose, or may require the Lessee, at his own expense, to enforce the terms of such contract.
- 11. If the Lessee shall fail to make any of the payments herein stipulated when due, or shall fail to keep any of the terms hereof, or of a contract preliminary hereto between the same parties dated July 27th, 1889, and such default shall continue during a period of sixty days after written notice thereof from the Lessor, or shall become bankrupt or insolvent, the Licensor may, if it shall so elect, by a written notice to the Lessee (or those in charge of any of its principal offices) terminate all rights granted by the Licensor hereunder, and by itself or those designated by it for the purpose, by

due process of law or by actual entry, may and shall be entitled to repossess itself of the rights and privileges herein granted, and thereafter use and enjoy the same; and especially may take possession of and remove said telephones, or sever the wires to which they are connected, and connect its own wires to said severed wires, telephones, and apparatus, and use the same by itself and by

those whom it may permit; or it may, so long as it shall see fit, leave in the enjoyment and use of the telephones any person in actual possession, and collect from him such sums as are or may become due for the use of the telephones, wires and appliances, used therewith, and for that purpose shall be entitled to and may take possession of all the lines, fixtures, apparatus, appliances and premises of the Lessee used for carrying on this business, and occupy and operate the same in connection with said telephones and other telephones connected or to be connected therewith, or connect such lines with offices of its own for that purpose. The Licensor shall have the like right upon or within three months after the termination of the rights of the Licensee hereunder by efflux of time or otherwise; and may enforce this provision by an entry without being deemed guilty of any trespass, or by legal process, including an injunction to prevent any interference with the Licensor and others permitted by it in the use of said telephones, lines and apparatus. The property so taken and which does not belong to the Lessor or revert to it hereunder may be returned within three months from the taking, in which case the Lessor shall pay to the Lessee a reasonable compensation for the use thereof, or the Lessor may retain the same as its own property, and shall pay therefore a reasonable price, in no case exceeding the actual cost, within four months after the taking and shall account to the Lessee for all sums collected which accrued before the Licensor became so entitled to possession, first deducting all expenses incident thereto, and all that may be due from the Lessee to it. The Lessor also reserves all its rights and remedies in law and in equity under the patent laws or otherwise, including the remedy by injunction against the Lessee or those claiming under it, for the use of any of its patented inventions or instruments not justified by a subsisting license hereunder, or for the violation of any other of its rights. The Lessor may also use the name of the Lessee to protect its interests and enforce its rights hereunder, and the Lessee shall execute assignments in accordance herewith.

1714 12. This contract is personal to the Lessee herein named, and any assignment or attempt to assign the same or the lines established hereunder, or any or either of them, by act of the party or operation of law, without the written consent of the Licensor, shall be violation hereof, and good ground for a cancellation hereof by the Licensor; The party of the second party covenants that he will keep and observe all the stipulations herein contained on his part to be kept and performed. Whenever the Licensor grants to others the rights for exchange or any of its rights under Article 6 hereof or any other rights remaining to it, the stipulations hereof relating

thereto shall be binding upon and enure to the benefit of such grantees, and the Licensor shall not be responsible for their acts or defaults. If the Licensor shall transfer to any party who shall agree to perform the stipulations thereof, its title to the telephones hereby leased, and the patent rights under which they are licensed, and its then existing rights hereunder, it is agreed that the provisions hereof enure to the benefit of and are binding upon such party in respect of all things done or to be done after such assignment, as if it were named a party, and that said American Bell Telephone Company shall no longer be responsible hereunder. Words herein referring to the party of the second party shall be taken to be of such number and gender as may be required.

Discount on telephones and proportion of extra-territorial receipts as given in surrendered contract (as per Exhibit A) to continue

until June 1st, 1891.

* The following erasures, viz: six (6) words on line 32, three (3) figures and one (1) word on line 33, four (4) words on line 67, nine (9) words and one (1) figure on line 68, nine (9) words on line 69, two (2) words on line 149, eight (8) words on line 159, all the words on lines 160, 161 and 162, nine (9) words on line 215, all the words on lines 216 and 217, and (1) word on line 218, and all the words on line 229, and the following interlineations, viz: "Seventy (70) per cent of the telephone rental and royalty which

shall be fixed from time to time by the Licensor (being a

discount of Thirty (30) per cent)," on line 69, "fifteen (15) per cent" on line 149, "or fraction thereof" and "from other sources" on line 152, and "or of a contract preliminary hereto between the same parties dated July 27th, 1889" on line 181, were made before signature by either party.

Signed on the date first above written in duplicate.

[Seal Am. Bell Tel. Co.]

THE AMERICAN BELL TELEPHONE CO.,

C. J. F. (Sd.)

(Sd.) By JOHN E. HUDSON.

Its President.

[Seal So. Westn. Co.]

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE CO.,

(Sd.) By LEVI SPRAGUE,

Prest.

(Sd.) CHAS, J. GLIDDEN,

Secy.

^{*}This paragraph refers to interlineations in the printed form on which the original agreement was made.

Form 116-C.

This agreement, by and between the American Bell Telephone Company of Boston, Massachusetts, a corporation established under the laws of said State, Lessor and Licensor, of the first part, and The Southwestern Telegraph and Telephone Company, a corporation created under the laws of the State of New York, of the second part, witnesseth:

1. Whereas, the Lessor owns the patents of the United States granted to Alexander Graham Bell, March 7, 1876, and January 30, 1877, numbered 174, 465 and 186,787, respectively, and owns or has the right to use, and may hereafter own or have the right to use, sundry other inventions, which are or may be embodied in electric speaking telephones, now, for the purpose of supplying and placing telephones to be used for the purposes, and as hereinafter set forth, upon private lines, club lines, social lines, and lines for speaking-tube purposes, which are entirely within the following described territory, viz:

The States of Arkansas and Texas; it is agreed:

2. The private line referred to in this contract is a line consisting of only a single circuit which shall not be permanently nor temporarily connected with any other circuit, and the telephones on the private business of the principal business of the private business of the private business o

which shall be used only for the individual and private busi-1716 ness of the Lessees, and only by them and their employees;

and which line shall not extend more than twenty-five miles beyond the municipal limits of the city or town in which one end of the line is situated, and which shall not be used for more than four individuals, firms or corporations, and which shall not have more than eight stations, and upon which no business shall be transacted for any consideration or toll to be paid by other persons than the Lessees, or other parties named in the leuse of telephones, not exceeding said number, and over which shall be transmitted no business messages, market quotations or news for scale or publication, or messages in respect of which, or of the transmission, collection, delivery, publication, sale or use of which any consideration or toll is to be paid by any other person.

- 3. A club line is a line consisting of only a single circuit, connecting not less than five individuals, firms or corporations, without regard to the number of stations, or having not less than nine stations, without regard to the number of parties connected, all the stations of which are within the same municipality, or within five miles of its principal post office, and which is used by not more than one party at each station. In other respects, the use is limited as above stated for private lines.
- 4. A social line is a line consisting of a single circuit only, which shall not be permanently or temporarily connected with any other circuit, all the stations of which are within the same municipality and the telephones on which are to be used only for connecting

persons and families for social and household purposes, and by not

more than one party at each station.

But no one of the stations of a private line or of a club line or of a social line shall be used as an exchange office, or be provided with a switch-board or equivalent apparatus to be used in connection with said line, nor can said line be permanently or temporarily connected with a telephone exchange system, or with another circuit, nor with a telegraph office, without special leave of the Lessor. In case any

station shall, by such special leave, be located at a telegraph office, customers may be allowed to use the line to receive and

transmit their telegraphic messages, so far as may be expressly permitted by a written license which they shall agree to, and which shall conform to the following terms, viz: Each person so using said lines makes and constitutes the operator at the telegraph office his agent, without pay and without liability, to write upon the ordinary message blanks of the telegraph company all messages to be sent, to send them at the rate for unrepeated mesages, to receive and receipt for all messages received for him, and to sign his name to the contracts limiting the liability of such telegraph company set forth on such blanks; and will pay to said telegraph company all tolls on messages so sent, and all tolls on unpaid messages received for him; and he assumes all risk of error or mistake in the reception, repetition, delivery, non-delivery or misdelivery of messages sent or intended to be sent over said telephone line.

5. Speaking-tube telephones are telephones of the kind especially constructed and designated for that purpose, and which are allowed to be used only to connect stations, all of which shall be on the same premises of one individual, firm or corporation, without passing over the land of any other person (except a road or water-course); or they may be allowed to be used for connecting a licensee's house, stable and other domestic or farm buildings by passing over intervening land, provided that all stations connected by a speaking-tube line are to be within one circle of less than half a mile in di-

ameter.

6. If telephones are desired for uses and upon lines other than herein defined, special application must be made to and special leases and licenses obtained therefore from the American Bell Telephone Company; and the provisions hereof shall apply to such other telephones furnished to the second party so far as they can be applied, subject to the provisions of such special licenses By special leave of the Lessor, one station of a club line or of a private line or of a

social line may be maintained in a telegraph office by consent 1718 of the telegraph company; but they are only licensed for

this purpose so far as and upon the terms and conditions expressed in Article 4 hereof; and when so licensed or used, such station and the business done by and from it shall be under such regulations as the Lessor shall from time to time prescribe; and the party of the second part shall receive twenty-five per cent, and the party of the first part seventy-five per cent of whatever the Western Union Telegraph Company (or any other company specially designated by the Lessor) may pay for the collection and delivery of, and as com-

mission upon the telegraphic messages collected or delivered through such telephone line.

7. The Licensor, at its general office or factory, will from time to time deliver to the second party as needed, but not exclusively, electric speaking telephones, during the existence of this contract. to be used upon such lines for such purposes; they shall be of such standard character and pattern and bear such marks as the Licensor shall from time to time determine, but the second party may select which it prefers among said patterns (except for speaking-tube purposes as aforesaid): the Licensor will also license, to be used with such telephones, the inventions in call-bells, switches and other apparatus needed for such telephone lines, which it can so license, upon such royalties as it may from time to time establish, not greater than those fixed for others under similar circumstances: but such call-bells, switches and other apparatus shall be used only with telephones licensed by the Lessor, and shall not be disposed of to any one except those so licensed or to the licensed manufacturers of the Each telephone shall remain the property of the licensor, and may be used by suitable customers to be selected by the second party upon such lines for the purposes herein set forth, under lease and license from the licensor and lessor to such customers such lease and license to be furnished by it for each customer, in such forms and upon such terms, conditions and rental, and for such periods as

the Licensor may from time to time determine; each lease and license to be countersigned by the said second party, and

to be signed by each customer upon whose premises telephones are to be placed. Said telephone rentals and royalties shall belong to and may be collected by said American Bell Telephone Company in its own name; non-payment thereof to the said company, or any use of the telephones otherwise than is herein permitted, is an injury to and invasion of its rights as owner of the instrument and of the patent rights used therein and thereby, and entitling it to all rights and remedies in law and in equity, under the patent laws and as expressed herein and in licenses to be granted in pursuance hereof and otherwise, including the remedy by injunction, against the person in possession thereof and all others who have misused the same as aforesaid for the use of any of its patented inventions or instruments not justified by a subsisting license hereunder, or for the violation of any other of its rights.

If the said lines belong to the second party, it may also charge to the customer a sum not exorbitant nor unusual for the use of such lines and the apparatus and appliances other than telephones used therewith. The second party shall, on each pay-day, report the names and locations of each new customer, all licenses issued and all removals of instruments, and give such other information respecting the business as the Licensor may call for, all in such form as it may request, and shall transmit to the Licensor the leases signed by customers as aforesaid. The lessor reserves the right to refuse to furnish telephones to any party who in its opinion is likely to use them in a manner contrary to the provisions hereof, or to the

obligations of the Lessor to other parties.

8. The party of the second pary shall pay, or cause to be paid, to the Licensor a rental and royalty at the rate per instrument of the following percentages of the telephone rental and royalty fixed by the Licensor in accordance with this contract:

Telephones for private lines Seventy (70) per cent (being a discount of Thirty (30) per cent):

Telephones for club lines Seventy (70) per cent (being a discount

of Thirty (30) per cent):

1720 Telephones for social lines Seventy (70) per cent (being a discount of Thirty (30) per cent):

Telephones for speaking-tube lines Seventy (70) per cent (being

a discount of Thirty (30) per cent):

to commence on each telephone on the first day of the second calendar months after its shipment by the Licensor, to continue until the instrument shall be put into the possession of the Licensor, or proved to be destroyed, and to be paid in equal monthly payments in advance at the Licensor's office, on the tenth day of each month up to the last day of the same month. Until otherwise fixed the rates shall be as follows:

For private lines:

Battery transmitter, each instrument.....per year \$10.00 Magneto-telephone, each instrument....per year \$10.00

For club lines:

\$10 per year for each battery transmitter, and \$10 per year for each magneto-telephone, where only one instrument is used at a terminal or station; where a pair of instruments, composed of a battery transmitter and a magneto-telephone, are used at one terminal or station, \$15 per year for each pair so used.

For social lines:

Battery transmitter, each instrumentper	year	\$7.50
Magneto-telephone, each instrumentper	year	7.50

For speaking-tube purposes:

Speaking-tube	telephone	\$5.00	each	for	one	year
Speaking-tube	transmitter	\$5.00	each	for	one	year

Upon each telephone unlawfully detained from the Lessor the second party shall pay, or cause to be paid, ten dollars per month, until satisfactory proof of its destruction be furnished, and five dollars for each lost or destroyed otherwise than by fire or unavoidable accident, and the second party shall bear the expense of ordinary repairs; but neither of said payments shall confer any right to the instrument, nor to its use, nor satisfy any other breach of covenant, nor impair the right of the Licensor to obtain possession by act of the

party or legal process. Said second party, so long as it makes, or causes to be made, the payments herein stipulated, and keeps all the terms hereof, and of a contract preliminary hereto between the same parties dated July 27th, 1889, may collect the rentals and royalties from the customers hereunder for a period in advance not exceeding one year. Upon any default on its part which shall con-

tinue for more than thirty days after written notice thereof, the Licensor may, by written notice to it or by publication in some newspaper in the City of Austin, Texas, revoke said authority to collect, and revoke and cancel all the right and interest of every kind hereunder of the second party, and may, in its own name, or in the name of the second party if it shall deem such course more convenient, collect all rentals for telephones and lines furnished hereunder or in accordance herewith, whether then due or thereafter to become due, and take possession and remove all telephones furnished hereunder, subject to such rights as such customers may lawfully have under licenses to be granted by it in accordance with the terms hereof. For all rentals and royalties, so collected by the Licensor, and which accrued before the Licensor gave notice as aforesaid, it shall account to the second party, first deducting all that may be due from said second party to it, and expenses incident thereto.

9. In case any customer hereunder shall fail to pay the rental and royalty for the instruments delivered to him or shall use them otherwise than as provided in this license contract, or fail to return them when bound so to do, the American Bell Telephone Company may, if it sees fit, in its own name, or in that of the party of the second part, as it may deem most convenient, have and exercise against said customer all the rights for redress and protection by act of the party or by process of law, which belong to it, as owner of the telephone and of patent rights to the inventions embodied therein or used thereby, or provided hereby or by any contract of such customer; or may require the second party to pursue all said last named contract rights and remedies to final judgment and execution, or other most advantageous process of the court, at his own expense.

10. The second party admits the validity of all patents relating to telephony and telephonic appliances now or hereafter held by the Licensor, or under which it may hold licenses exclusive in their character, and the validity of its title thereto, and will not make, use or be interested in any telephones or telephonic lines or business not licensed by the Licensor or its assigns.

11. The second party shall, without charge, promptly notify the Lessor of any parties using telephones not leased by the second party or the American Bell Telephone Company, giving name of party, description of instrument, and place where same is used, and any other information possible to obtain.

13. The second party covenants that it will be absolutely responsible for the acts and omissions of itself, its agents and servants, and that it will use good diligence and care to select sublicensees of a

proper character, and to compel them to conform to the terms hereof. Whenever the Licensor grants to others any right remaining to it hereunder, the stipulations hereof relating thereto shall be binding upon and enure to the benefit of such grantees, and the Licensor shall not be responsible for their acts of defaults. If the Licensor shall transfer to any party, who shall agree to perform the stipulations hereof, its title to the telephones hereby leased and the patent rights under which they are licensed, and its then existing interests hereunder, it is agreed that the provisions hereof enure to the benefit of, and are binding upon such party in respect of all things done or to be done after such assignment as if it were named a party hereto, and that said American Bell Telephone Company shall no longer be responsible hereunder. All words herein relating to the second party shall be deemed to be of such number and gender as may be required.

14. The rights of the second party hereunder shall be perpetual unless determined as provided in Article 8 hereof.

Discount on telephones as given in surrendered contract (as per

exhibit A) to continue until June 1st, 1891.

*All the words on lines 172, 173, 174, 175, 176, 177, 178 and 179 erased, and the words "and of a contract preliminary hereto between the same parties dated July 27th, 1889" on line 142, were made before signature by either party.

1723 Signed in duplicate this Twenty Seventh day of July 1889.

[Seal Am. Bell Tel. Co.]

THE AMERICAN BELL TELEPHONE CO.

(Sd.) C. J. F.,

(Sd.) By JOHN E. HUDSON,

Its President.

[Seal Sowestn. Co.]

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE CO.,

(Sd.) By LEVI SPRAGUE,

President.

(Sd.) CHAS. J. GLIDDEN, Secy.

Memorandum of an agreement, made this first day of November, 1907, by and between The American Bell Telephone Company, incorporated under the laws of Massachusetts, of the first part, and The Southwestern Telegraph and Telephone Company, incorporated under the laws of New York, of the second part,

^{*}This paragraph refers to interlineationus in the printed form on which the original agreement was made.

Witnesseth:

Whereas, said Companies entered into certain contracts dated July 27, 1889, in Forms 109–D, 113–D and 116–C, respectively, and also a contract preliminary thereto, bearing the same date, under which said The American Bell Telephone Company agreed to lease and license to said The Southwestern Telegraph and Telephone Company telephone instruments and to furnish to said Company certain other services and things, as expressed in said contracts and in certain contracts in Form 113–C, made subsequent to said date, and

Whereas said contracts have in certain respects become obsolete, and it is desired by the parties hereto to cancel the same and to

make a new agreement in place thereof,

Now it is agreed:

That all contracts now existing between said Companies in Forms 109–D, 113–C, 113–D and 116–C, respectively, and said preliminary agreement, are hereby cancelled as of this date, but said The American Bell Telephone Company shall continue to furnish said The Southwestern Telegraph and Telephone Company telephone instru-

ments, license their use, and the use of telephone appliances, so long as this agreement remains in force, under all patents

now or hereafter owned or controlled by it, said The American Bell Telephone Company, and furnish other services and things as heretofore, and said The Southwestern Telegraph and Telephone Company shall pay to said The American Bell Telephone Company the same consideration in money which it has heretofore paid under the terms of the letter of said The American Bell Telephone Company, dated November 21, 1902.

Said The Southwestern Telegraph and Telephone Company shall assume and pay any and all taxes, whether municipal, county, state or other, assessed on or on account of or by reason of the telephone

instruments furnished hereunder.

Signed on the day first above written, in duplicate.

[SEAL.] THE SOUTHWESTERN TELEGRAPH
AND TELEPHONE CO.,
(Sd.) By H. J. PETTENGILL,
President.

THE AMERICAN PRESIDENT.

[SEAL.] THE AMERICAN BELL TELEPHONE COMPANY,

(Sd.) By THEO. N. VAIL, President.

Copy.

The American Bell Telephone Company.

No. 95 Milk Street.

P. O. Drawer 2.

Boston, June 30th, 1885.

To our licensees for exchange purposes.

GENTLEMEN:

The American Bell Telephone Company hereby proposes to provide, (either by an adjustment of the commission allowed you on the gross rental for Telephones used by certain Exchange Subscribers, hereinafter specified, or by a reduction of the gross rental fixed for telephones for such subscribers, The American Bell Telephone Company reserving to itself the full and unqualified right to adopt either or both of said modes), for a change in the net rental from you on such Telephones, as follows:

-	-	^	-
-1	7	٠,	2

	Net rental for each telephone and for each transmitter per year.
Exchange subscribers paying \$24 per annum, or less, for exchange service	\$3.00
Exchange subscribers paying exceeding \$24, and not exceeding \$27 per annum, for exchange service	$3.12\frac{1}{2}$
Exchange subscribers paying exceeding \$27, and not exceeding \$30 per annum, for exchange service	$3.37\frac{1}{2}$
Exchange subscribers paying exceeding \$30, and not exceeding \$33 per annum, for exchange service	$3.87\frac{1}{2}$
Exchange subscribers paying exceeding \$33, and not exceeding \$36 per annum, for exchange service	4.50
Exchange subscribers paying exceeding \$36, and not exceeding \$39 per annum, for exchange service	5.25
Exchange subscribers paying exceeding \$39, and not exceeding \$42 per annum, for exchange service	6.00
Exchange subscribers paying exceeding \$42, and not exceeding \$45 per annum, for exchange service	6.75

Where subscribers pay above \$45 per annum, the present net rentals will stand.

Where the present contract relations and discounts give a less net rental than the net rental herein named, the contract will be followed:

The monthly rental bills will be rendered from this office in the

form hitherto used, at the rates and upon the terms of rental, dis-

count and payment fixed by the contract.

You are asked to send to the Treasurer, on the last business day of each month, beginning with July, 1885, a statement over the signature of your Treasurer, or other official having the best knowledge of the facts, showing the number of stations in each Exchange for which the rates per station named herein were charged during the month, the number of stations at each rate, the number of Telephones at each such station, and the number of days during the month for which such charge was made.

The amount which, under the terms of this circular is to be returned to you, will be calculated from the statement as rendered, and notified to you, and placed to your credit in account with this

Company.

Please give us early notice of your receipt and acceptance hereof.

Yours respectfully, (Sgd.)

THEO. N. VAIL, General Manager.

1726

Boston, July 30th, 1885.

To our licensees for exchange purposes.

GENTLEMEN:

From July 1st, 1885, instruments used for Exchange purposes, and for which your Company receives no consideration to a number not greater than three (3 per cent) per cent. of the total instruments charged to your Company for exchange purposes, will be furnished free of rental.

Yours respectfully,

(Sd.)

THEO. N. VAIL, Genl. Manager.

The American Bell Telephone Company.

Boston, August 4th, 1885.

To holders of contracts for exchanges:

Referring to the General Manager's circular of July 30, 1885, relating to instruments used for Exchange purposes and for which your company receives no consideration, and to carry out the purposes of that circular, the following method will be adopted.

Rental will be charged on all instruments as heretofore, and you are requested to add to the statement which by the Company's circular of June 30th, 1885, you are asked to make monthly, a statement of the number of instruments upon which rental has been charged to you for that month and which have been used for exchange purposes but for which no consideration has been received.

From the information so furnished the proper amount will be calculated and placed to your credit after notice of the same has

been sent to you.

WM. R. DRIVER, Treasurer.

Form 387-A.

Subject: Special Long Distance Transmitter.

The American Bell Telephone Co.

Boston, July 1, 1887.

To our licensees:

Certain question- which we have had to consider are not yet in such shape as will enable us to adopt and furnish the special long distance transmitter as a standard instrument, but to supply what seems to be a demand, as shown by the frequent applications

1727 we have received for these transmitters, we have decided to make and furnish them as a special instrument, to such of our licensees as desire to obtain them, charging in addition to the annual rental and royalty as per extra-territorial contracts, three dollars on each, of the excess in cost of manufacture over that of the Blake transmitter.

These instruments are intended for use, and are to be used only on such lines as are operated under our extra-territorial contracts,

and not for any other purpose.

With ordinary usage they are not liable to get out of order, and as they will be carefully examined and tested before shipment, should not be opened or taken apart except in case of absolute necessity. When placed in position for use, they should be firmly secured and in such position as to keep the top of the carbon chamber in a horizontal position.

The connections are made by the use of the binding posts, in the

same manner as the Blake transmitter.

The best results are obtained by using three cells of Fuller battery of four cells of La Clanche battery. With Gravity battery at least six cells should be used.

The primary circuit resistance should be kept as low as possible; care must therefore be taken to keep the battery and connections clean. The battery connecting wires should be large as convenient.

When first set up the carbon should be brought into place by shouting loudly into the transmitter some uniform note, at the same

time gently rapping the adjustable arm.

If after thoroughly shaking down the carbon (which if properly done should half fill the side holes) the instrument appears not to work well, see if the battery resistance is not too high.

It is in good condition when it transmits the voice with perfect distinctness when spoken into in a moderate tone with the lips close

to but not touching the mouth piece.

In ordering these special long distance transmitters, Form 199 must be used, giving thereon the station at, and the line on which the instrument ought to be used.

Yours respectfully,

(Sd.)

JOHN E. HUDSON; General Manager.

The American Bell Telephone Company.

Boston, January 31, 1894.

To our licensees:

The American Bell Telephone Company proposes to reduce the rental for magneto telephones, and to that end announces that the gross annual rental for each magneto telephone is fixed at five dollars; and that the discount thereon and the net annual rental payable by you, beginning with February 1, 1894, will be as follows:

Exhange Purposes. On Each Magneto Telephone.

On Each Magneto Telephon	в.	Net rental
	Discount.	per annum.
Exchange subscribers paying \$24 per annum or less for exchange service	85%	\$0.75
and not exceeding \$30 per annum for exchange service Exchange subscribers paying exceeding \$30	80%	1.00
and not exceeding \$36 per annum for exchange service	75%	1.25
and not exceeding \$42 per annum for exchange service Exchange subscribers paying exceeding \$42	70%	1.50
and not exceeding \$48 per annum for exchange service Exchange subscribers paying exceeding \$48	65%	1.75
and not exceeding \$54 per annum for exchange service Exchange subscribers paying exceeding \$54	60%	2.00
and not exceeding \$60 per annum for exchange service Exchange subscribers paying exceeding \$60	55%	2.25
per annum for exchange service	50%	2.50
Toll Station Purposes.		
Magneto telephone used at toll stations, and all magneto telephones used for extra-territorial purposes		2.50
Private Line Purposes.		
Magneto telephones used for private lines and other similar purpose	85%	0.75

The monthly rental bills will be rendered from this office in the form hitherto used, and for convenience of accounting, at the rate of two dollars and fifty cents per annum for each magneto telephone.

You are asked to send to the treasurer on the last business day of each month, beginning with February, 1894, a statement over the signature of the official having the best knowledge of the facts, showing the number of stations in each exchange for which the rates per station named herein were charged during the month, the number of stations at each rate, the number of magneto telephones at each such station, and the number of days during the month for which such charge was made.

The amount, which under the terms of this circular is to be returned to you, will be calculated from the statement so rendered, and notified to you and placed to your credit in ac-

count with this company.

The amount, which under the terms of this circular is to be returned to you on account of magneto telephones used for private lines and other similar purposes, will be adjusted upon receipt of a bill of statement similar to that which you send for rebate for fire and police service.

As to magneto telephones, this letter will supersede the circular of June 30, 1885 (Form 347), but such circular shall remain in force

for all other telephones.

Please give us early notice of your receipt and acceptance hereof.

Yours respectfully,

(Sd.)

C. JAY FRENCH, General Manager.

The Southwestern Telegraph and Telephone Company.

Extract from the Minutes of a Meeting of the Directors of This Company Held on February 2, 1894.

"Voted: That the liberal concession offered by the American Bell Telephone Company in their circular letter of January 31, 1894, on the royalty charged for the use of magneto telephones be accepted with thanks."

1730

Copy.

Rates for Instruments for Private Lines and Other Purposes.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, March 7, 1894.

To licensees for the "Supply of Telephones for Private Lines and Other Purposes":

Until further notice instruments can be leased for the following purposes at the rates given below.

For a Set Consisting of a Magneto Telephone and a Battery Transmitter.

Annual rental.

For private lines ...

\$10.00 per set.

A private line is a line consisting of only a single circuit, which shall not be permanently not temporarily connected with any other circuit, and the telephones on which are to be used only for the individual and private business of the lessees, and only by them and their employees. Such private line shall not extend more than twenty-five miles beyond the municipal limits of the city or town in which one end of the line is situated, nor shall any such line or circuit be used for more than four individuals, firms or corporations, nor have more than eight stations. No business is to be transacted by or through them for any consideration or toll to be paid by other persons than the lessees or other parties named: nor shall business messages, market quotations, or news for sale or publication, or messages in respect of the transmission, collection, delivery, publication, sale or use of which any consideration or toll is to be paid by any other person, be transmitted over such line.

For club lines

\$10.00 per set.

A Club Line is a line consisting of only a single circuit, connecting not less than five individuals, firms or corporations, without regard to the number of stations, or having not less than nine stations, without regard to the number of parties connected, all of the stations of which are within the same municipality, or within five miles of its principal post-office, to be used by not more than one party at each station. In other respects the use is to be the same as that above stated for private lines.

For social lines

\$3.00 per set.

A Social Line is a line consisting of a single circuit only, which shall not be permanently or temporarily connected with any other circuit, all the stations of which are within the same municipality, and the telephone- on which are to be used only for connecting persons and families for social and household purposes, and by not more than one party at each station.

1731

Annual rental.

For speaking tube purposes (above-described set).

\$3.00 per set.

Speaking Tube Telephones are to be of the kind especially constructed and designated for that purpose, and are to be used only to connect stations, all of which are to be on the same promises of one individual, firm or corporation, without passing over the land of any other person (except a road or watercourse); or they may be used for connecting a Licensee's house, stable, and other domestic or farm buildings, by passing over intervening land; but all stations connected by a speaking-tube line are to be within one circle or half a mile diameter.

Special Speaking Tube Set, Consisting of Magneto Telephone and Battery Transmitter.

For "Hotel" purposes (includes call-bell)......
For "Office" or "Factory" purposes (does not include call-bell)

\$3.50 per set.

\$3.00 per set.

Licensees will be allowed a discount of fifty per cent on the above rates.

A magneto receiver or a magneto transmitter can be rented at \$1.00 each or at \$2.00 per pair for either of the above purposes, per annum.

This circular will take effect from February 1, 1894, and cancels

circular (Form 191-B) dated June 15, 1881.

No magneto telephone or magneto transmitters other than those furnished by this Company to its licensees and rented by them, can be used in connection with battery transmitters or other apparatus covered by patents owned or controlled by this Company.

Licensees are asked to examine the prices which they at present charge for whatever they do, lease or furnish to this class of subscribers, other than the instruments, to see if any change in such prices should be made, with the view of supplying all demands for this class of business.

"Long distance" or "solid back" battery transmitters will not be furnished for use on private lines, except where such lines are me-

tallic circuit owned, maintained and leased by the licensees.

Yours respectfully, (Sd.)

C. JAY FRENCH, General Manager. Rates for Instruments for Fire, Police, and Branch Lines Purposes.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, March 15, 1894.

To licensees for the "Supply of Telephones for Private Lines and Other Purposes:"

Until further notice instruments can be leased for the following purposes at the rates given below:

For Fire Alarm, Police, or Police Patrol Purposes.

On Condition that the instruments are to be used only on lines owned and operated by a city, town or other municipal corporation upon its own business, and that none of such lines or stations connect with, or in any sense form a part of the telephone exchange, licensees can furnish instruments, under our usual private line lease (Form 186-E), for use by such city, town or other municipal corporation, for either of the above purposes.

For each set of instruments, consisting of a magneto telephone and

a battery transmitter, \$10.00 per annum.

For Branch Line Purposes.

A branch line is a line connecting cities, towns, or places, in which no telephone exchange is established, with each other, and, except as hereinafter provided, used only for personal communication, as hereinafter defined, between customers and one such city, town or place, and customers in another such city, town or place. Such lines are not to be used to connect with each other parties in the same town, city or place: nor are they to be used to connect any two or more such cities towns or places, if and after same shall have been included in an exchange district; nor without special leave of the lessor to connect with any such city, town or place, after an exchange shall have been established therein; nor directly or indirectly to connect any two or more exchanges with each other. (Extract from branch line contract. (Form 251-C).

For each set of instruments, consisting of a magneto telephone and

a battery transmitter, \$10.00 per annum.

(Branch line contracts are made only by this company and upon special application for each line.)

Licensees will be allowed a discount of fifty per cent on the above

rates.

A magneto receiver or a magneto transmitter can be rented at

\$1.00 each or at \$2.00 per pair for either of the above purposes, per annum.

This circular will take effect from Feb. 1, 1894, and cancels all previous letters, giving special rates for instruments for any of the

above named purposes.

No magneto telephones or magneto transmitters other than those furnished by this Company to its licensees and rented by them, can be used in connection with the battery transmitters or other apparatus covered by patents owned or controlled by this company.

Licensees are asked to examine prices which they at present charge for whatever they do, lease or furnish for any of these purposes, other than the instruments, to see if any change in such prices

should be made, with the view of supplying all demands for these classes of business.

"Long distance" or "solid back" battery transmitters will not be furnished for any of the foregoing purposes except where the lines are metallic circuit, owned, maintained and operated or leased by the licensee.

Yours respectfully,

(Sd.)

C. JAY FRENCH. General Manager.

Copy.

Subject: Sample Instruments.

Boston, April 6th, 1894.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

DEAR SIR:

We shall send you by express in due course of business, on loan account, a new form of magneto telephone (called the "Watch" form) and a magneto transmitter No. 3 (called the spoon form).

These are sent that you may have more definite information respecting them than could be obtained from a printed or written

description.

These magneto instruments will be furnished to licensees under the usual contracts held by them, at the same rate as the ordinary magneto telephone (hand) is furnished, and can be rented at the rates specified in our circulars of January 31, 1894 (Form 457) and March 7, 1894 (Form 465A).

We shall also send with these instruments and on the same account a sample of the Western Electric Co's new call-bell, style No.

14, designed more especially for private line service.

The Western Electric Co. advise us that this call-bell will be furnished to our licensees at \$4.50 each and with backboard and battery box at \$5.50 each.

The attached drawing No. IV-A-49 shows the method of connecting when the call-bell is used with the magneto transmitter and drawing number XI-A-17 when it is used with a battery transmitter.

Our usual receipt for these will be sent you, which kindly sign, when the articles are received, and return to us.

Yours truly,

(Sd.)

C. JAY FRENCH, Gen. Manager.

Copy.

Special Long Distance Transmitter.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, July 20, 1894.

To our licensees:

Referring to our circular dated July 1, 1887 (Form 387A) relating to the "special long-distance transmitter, "this company will bear the entire cost of manufacture of instruments of this pattern, and also of "solid-back" transmitters, and of Blake transmitters fitted with the grandular carbon button, which may be furnished after this date.

The purposes for and the conditions under which licensees have heretofore been authorized to rent or use these special instruments

remain unchanged.

(Sd.)

No magneto-telephone or magneto-transmitters other than those furnished by this company to its licensees, and rented by them, can be used in connection with battery transmitters or other apparatus covered by patents owned or controlled by this company.

Yours respectfully,

C. JAY FRENCH, General Manager.

Copy.

Rental of Battery Transmitters.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, February 15, 1895.

To our licensees:

Pending the appeal from the recent decision in the Berliner case and until the matter is reheard, the American Bell Telephone Com-

pany will make the net annual rental payable by you on standard battery transmitters, beginning with February 1, 1895, as follows:

Exchange Purposes.

Each Battery Transmitter.

	Discount (gross \$10.00).	Net rental per annum.
Exchange subscribers paying \$24 per annum or less for exchange service	921/2%	0.75
Exchange subscribers paying exceeding \$24 and not exceeding \$30 per annum for ex-		
change service Exchange subscribers paying exceeding \$30	90%	1.00
and not exceeding \$36 per annum for exchange service	871/2%	1.25
and not exceeding \$42 per annum for exchange service	85%	1.50
Exchange subscribers paying exceeding \$42 and not exceeding \$48 per annum for exchange service.	821/2%	1.75
Exchange subscribers paying exceeding \$48 and not exceeding \$54 per annum for exchange service.		2.00
Exchange subscribers paying exceeding \$54 and not exceeding \$60 per annum for ex-		
change service Exchange subscribers paying exceeding \$60 and not exceeding \$66 per annum for ex-		2.25
change service Exchange subscribers paying exceeding \$66 and not exceeding \$72 per annum for ex-	75%	2.50
change service Exchange subscribers paying exceeding \$72	$72\frac{1}{2}\%$	2.75
and not exceeding \$78 per annum for exchange service	70%	\$3.00
and not exceeding \$84 per annum for exchange service.	671/2%	3.25
Exchange subscribers paying exceeding \$84 and not exceeding \$90 per annum for exchange service.		3.50
Exchange subscribers paying exceeding \$90 and not exceeding \$96 per annum for ex-		
Exchange subscribers paying exceeding \$96 and not exceeding \$102 per annum for		3.75
exchange service.	60%	4.00

	Discount (gross \$10.00).	Net rental per annum.
Exchange subscribers paying exceeding \$100 and not exceeding \$108 per annum for exchange service. Exchange subscribers paying exceeding \$100 and part of the service and paying exceeding \$100 and paying exceeding	r . 57½%	4.25
and not exceeding \$114 per annum to exchange service	r . 55%	4.50
Exchange subscribers paying exceeding \$11 and not exceeding \$120 per annum for exchange service.	52½%	4.75
Exchange subscribers paying exceeding \$12 per annum for exchange service	. 50%	5.00
Toll Station Purpose	es.	
Battery transmitters used at toll stations an for extra-territorial purposes	d . 50%	5.00
1736 Private Line Purpos	es.	
Battery transmitters used for private line and other similar purposes		1.75

The monthly rental bills will be rendered from this office in the form hitherto used, and for convenience of accounting, at the rate

of five dollars per annum for each battery transmitter.

You are asked to send to the Treasurer on the last business day of each month, beginning with February 1895, a statement over the signature of the official having the best knowledge of the facts, showing the number of stations in each exchange for which the rates per stations at each rate, the number of battery transmitters at each such station, and the number of days during the month for which such charge was made.

The amount, which under the terms of this circular is to be returned to you, will be calculated from the statement so rendered and notified to you and placed to your credit in account with this company. The amount, which under the terms of this circular is to be returned to you on account of battery transmitters used for private lines and other similar purposes, will be adjusted upon receipt of a bill or statement similar to that which you send for rebate for fire and police service.

As to battery transmitters this circular suspends the circular of

June 30, 1885. (Form 347.)

Please give us early notice of your receipt and acceptance hereof.

Yours respectfully, (Sd.)

C. JAY FRENCH, General Manager. Extract from the minutes of a meeting of the Directors held on April 5, 1895.

"Voted: That the schedule of rates presented be adopted with such modifications as may be made by a committee consisting of the President, Treasurer and Gen. Sherwin, after a conference with the American Bell Telephone Company."

1737

Copy.

Rates for Instruments for Private Lines and Other Purposes.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, February 15, 1895.

To Licensees for the "Supply of Telephone- for Private Lines and other purposes:"

Until further notice instruments can be leased for the following purposes at the rates given below:

For a Set Consisting of a Magneto Telephone and a Battery Transmitter.

Annual rental.

A private line is a line consisting of only a single circuit, which shall not be permanently or temporarily connected with any other circuit, and the telephones on which are to be used only for the individual and private business of the lessees, and only by them and their employees. Such private line shall not extend more than twenty-five miles beyond the municipal limits of the city or town in which one end of the line is situated, nor shall any such line or circuit be used for more than four individuals, firms, or corporations, nor have more than eight stations. No business is to be transacted by or through them for any consideration or toll to be paid by other persons than the lessees or other parties named; nor shall business messages, market quotations or news for sale or publication, or messages in respect of the transmission, collection, delivery, publication, sale or use of which any consideration or toll is to be paid by any other person, be transmitted over such lines.

Annual rental.

For club lines

\$5.00 per set.

A Club Line is a line consisting of only a single circuit connecting not less than five individuals, firms or corporations without regard to the number of stations, or having not less than nine stations without regard to the number of parties connected, all of the stations of which are within the same municipality. or within five miles or its principal post-office, to be used by not more than one party at each station. On other respects the use is to be the same as that above stated for private lines.

For social lines

. \$3.00 per set.

A Social Line is a line consisting of a single circuit only which shall not be permanently or temporarily connected with any other circuit, all the stations of which are within the same municipality. and the telephones on which are to be used only for connecting persons and families for social and household purposes and by not more than one party at each station.

For speaking-tube purposes (above-described

\$3.00 per set.

Speaking-tube Telephones are to be of the kind especially constructed and designated for that purpose, and are to be used only to connect stations all of which are to be on the same premises of one individual, firm or corporation without passing over the land of any other person (except a road or watercourse): or they may be used for connecting a Licensee's house, stable, and other domestic or farm buildings, by passing over intervening land; but all stations connected by a speaking-tube line are to be within one circle of half a mile diameter.

Special Speaking-tube Set, Consisting of Magneto Telephone and Battery Transmitter.

For "Hotel" purposes (includes call-bell)....... \$3.50 per set. For "Office" or "Factory" purposes (does not include call-bell)

... \$3.00 per set.

Licensees will be allowed a discount of fifty per cent on the above rates.

A magneto receiver or a magneto transmitter can be rented at \$1.00 each or at \$2.00 per pair for either of the above purposes, per annum.

This circular will take effect from February 1, 1895, and suspends

circular (Form 465A) dated March 7, 1894.

No magneto telephone or magneto transmitter other than those furnished by this company to its licensees and rented by them, can be used in connection with battery transmitters or other apparatus covered by patents owned or controlled by this company.

Licensees are asked to examine the prices which they at present charge for whatever they do, lease or furnish this class of subscribers, other than the instruments, to see if any change is such prices should be made, with the view of supplying all demands for this class of

business.

"Long distance" or "solid back" battery transmitters will not be furnished for use on private lines, except where such lines, are metallic circuits, owned, maintained and leased by the licensee.

Yours respectfully,

(Sd.)

C. JAY FRENCH, General Manager.

Rates for Instruments for Fire, Police and Branch Line Purposes.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

1739

Boston, February 15, 1895.

To Licensees for the "Supply of Telephones for Private Lines and Other Purposes":

Until further notice, instruments can be leased for the following purposes at the rates given below:

For Fire Alarm, Police, or Police Patrol Purposes.

On condition that the instruments are to be used only on lines owned and operated by a city, town or other municipal corporation upon its own business, and that none of such lines or stations connect with, or in any sense form a part of the telephone exchange. Licensees can furnish instruments, under our usual private line lease (Form 186E), for use by such city, town or other municipal corporation, for either of the above purposes.

For each set of instruments, consisting of a magneto telephone and

a battery transmitter, \$5.00 per annum.

For Branch Line Purposes.

A Branch line is a line connecting cities, towns or places, in which no telephone exchange is established, with each other, and, except as hereinafter provided, used only for personal communication, as hereinafter defined, between customers in one such city, town or place, and customers in another such city, town or place. Such lines are not to be used to connect with each other parties in the same city, town or place: nor are they to be used to connect any two or more such cities, towns or places, if and after the same shall have been included in an exchange district; nor without special leave of the lessor to connect with any such city, town or place, after an exchange shall have been established therein; nor directly nor indirectly to connect any two or more exchanges with each other. (Extract from Branch Line contract Form 251C.)

For each set of instruments, consisting of a magneto telephone and

a battery transmitter, \$5.00 per annum.

(Branch line contracts are made only by this company and upon special application for each line.)

Licensees will be allowed a discount of fifty per cent on the above

rates.

A magneto receiver or a magneto transmitter can be rented at \$1.00 each or at \$2.00 per pair for either of the above purposes, per annum.

This circular will take effect from February 1, 1895 and suspends

circular dated March 15, 1894 (Form 466).

No magneto telephones or magneto transmitters other than those furnished by this company to its licensees and rented by them, can be used in connection with battery transmitters or other apparatus covered by patents owned or controlled by this company.

Licensees are asked to examine the prices which they at present charge for whatever they do, lease or furnish for any of these

40 purposes other than the instruments, to see if any change in such prices should be made, with the view of supplying all

demands for these classes of business.

"Long distance" or "solid back" battery transmitters will not be furnished for any of the foregoing purposes except where the lines are metallic circuit, owned, maintained and operated or leased by the licensee.

Yours respectfully,

(Sd.)

C. JAY FRENCH, General Manager.

Copy.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, May 2, 1898.

To our licensees:

The American Bell Telephone Company proposes to extend the provisions of the circular of January 31, 1894 (Form 457), and of February 15, 1895 (Form 477), (as of January 1, 1898), to the cases below named, and as follows:

First. Instruments used at toll stations within the limits of an exchange, or used at toll stations on extra-territorial lines shall come under said circulars as if used for exchange purposes by subscribers paying yearly amounts equal to the gross annual tolls actually received at said several stations.

Second. On instruments on hand subject to rental, but not in use,—that is, instruments in stock,—the net rate shall be that fixed in said circulars upon instruments furnished for exchange service at \$24.00 or less per annum: that is to say, 75 cents yearly for each in-

strument.

And, referring to our circular letter of July 30, 1885 which provides that "instruments used for exchange purposes and for which your company receives no consideration, to a number not greater than three per cent of the total instruments charged to your company for exchange purposes, will be furnished free of rental," the net rate

for such instruments in excess of said three per cent shall be that above fixed for instruments in stock, namely, 75 cents per annum each. Monthly bills will be rendered as hitherto

at the rates named in said circulars, Forms 457 and 477.

At the end of the current month please send to the Treasurer an official statement from January 1, 1898, to that date, and thereafter at the end of each month a statement for that month, showing the number of instruments furnished you by this company, both magneto telephones and battery transmitters to which this circular applies, and the facts in relation thereto sufficient to show in detail the amount of abatement upon each such instrument under the terms hereof.

From the statement so rendered the allowance coming to you under the terms of this circular will be computed and the amount thereof placed to your credit.

Please give us early notice of your receipt and acceptance hereof.

Yours respectfully.

(Sd.)

C. JAY FRENCH, General Manager.

Copy.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, May 2, 1898.

Licensees of the American Bell Telephone Company:

Referring to the licenses for extra territorial connecting lines granted you by this Company, and to your agreement therein contained to pay this Company a portion or fraction of the gross receipts from business done on such lines, this Company proposes to release you and does hereby release you upon your acceptance hereof, from

your obligation to make such payment from business done after

April 30, 1898.

Referring to the right reserved to this Company in the licenses for exchanges granted you by this company, to connect 1742 such exchanges with telegraph offices, and referring also to the arrangement made between us by which you receive one half of the commissions payable to this Company by telegraph companies upon messages turned over to such telegraph companies by said exchanges (such arrangement having been made on the condition that at your own cost, and without charge or expense to this Company. you bill, equip and maintain the lines connecting such exchanges and telegraph offices and furnish all instruments necessary for the operation thereof except telephones and transmitters to be used in the telegraph offices, and that such lines when built become and remain the property of this Company). This Company now proposes. until further notice, to give you the full amount of such commission instead of one half thereof, provided you also furnish the telephones and transmitters to be used in the telegraph offices.

The net rate to be paid by you for each such telephone and transmitter shall be the lowest rate named in the circulars of January 31, 1894 (Form 457), and of February 15, 1895 (Form 477): that is, seventy-five cents per annum for each instrument. Such instruments will be included in the regular monthly bills at the gross

rates named in said circulars.

Application for connection with telegraph offices must be made to this Company as heretofore.

Please give us early notice of your receipt and acceptance hereof.

Yours respectfully, (Sd.)

C. JAY FRENCH, General Manager.

The Southwestern Telegraph and Telephone Company.

Extract from the Minutes of a Meeting of the Directors of This Company Held on May 11, 1898.

"Voted: That the thanks of the Cempany be extended to the American Bell Telephone Company for the concessions granted this Company under their circular letter dated May 2, 1898."

1743

Copy.

Instruments for Private Lines and Other Purposes.

The American Bell Telephone Company,

No. 125 Milk Street.

P. O. Drawer 2.

Boston, March 25, 1899.

The Southwestern Telegraph and Telephone Company, Dallas, Texas, licensee of the American Bell Telephone Company:

Referring to the circulars Form 478 and 479, dated February 15, 1895, this Company fixes the net rate to be paid by you, beginning with April 1, 1899, for magneto telephones and battery transmitters used for any and all of the purposes therein named, except branch line purposes, at seventy-five cents yearly for each instrument, being the lowest rate named in said circulars.

Referring to the contract between us (in most cases Form 1160) for the supply of telephones for private lines and other purposes, it is agreed that said contract shall be modified as hereinafter set forth.

- a. The licensee, party of the second part to such contract, shall make and sign, in its own name directly, the leases to customers therein referred to.
- b. It shall be excused, except upon special requests, from transmitting to us such leases and from reporting the names and locations of its customers thereunder.
- c. And further, the provisions of the contract between us (in most cases Form 113D) for lines connecting exchanges with each other shall be extended to include all lines (except private lines) connecting cities, towns and places, in which an exchange is not established, with other or with an exchange, for which branch line contracts, so called, have heretofore been issued, and the first section of our circular Form 502, dated May 2, 1898, shall apply to instruments used on such lines. All branch line contracts now held by you covering lines wholly within your territory, are hereby cancelled, and are to be returned to this office. All licenses for branch lines now held by third parties shall, until other and special pro-

now held by third parties shall, until other and special provision is made therefor, be continued as heretofore, and for instruments used thereunder our Licensees shall continue to pay the net rates fixed by our circular Form 479, dated Feb. 15, 1895.

This shall not be taken to authorize you to grant sub-licenses for toll lines without special permission. Instruments used for above-named purposes will be included in the monthly bills and proper rebate will be made on receipt of monthly statements showing the number of instruments so used.

Please give us early notice of your receipt and acceptance hereof.

Yours respectfully,

(Sd.)

C. JAY FRENCH, General Manager.

Copy.

American Telephone and Telegraph Company.

November 29, 1902.

The Southwestern Telegraph & Telephone Company, Dallas, Texas.

GENTLEMEN:

Enclosed herewith is a communication from The American Bell Telephone Company offering to accept, in lieu of the payments now made by you under your contracts with that Company by way of rental upon telephone instruments, a percentage of the total gross earnings of your Company, as defined in the circular.

This plan has been submitted to officers of practically all of the operating companies throughout the United States and seems to meet with general approval. It involves a substantial reduction in

the amounts paid by the operating companies.

While I believe that the plan and the details as set out in the enclosed letter are entirely clear, I take the liberty of calling attention to some of the clauses in the letter, that their intent and purpose may be readily understood.

The second clause, as to the way in which the gross earnings of a sub-licensee company is which a Bell operating company is

1745 interested shall be dealt with, applies only to a few cases throughout the country in which an operating company has acquired an interest in a sub-licensee company. It is not impossible that other such cases may from time to time arise, and a rule should be established for dealing with them.

The methods of return and payment under this plan are as-

similated as far as may be with those now in force.

The memorandum appended to the letter is for the sole purpose of securing uniformity of accounts and of methods of making up the gross earnings. The underlying principle on which the memorandum is based is, that the actual earnings of all telephones shall form part of the gross earnings, but that a telephone which is in fact free shall not be treated as if it contributed anything to the gross earnings.

It is only necessary to call attention to one provision of the memo-

randum, which is in the nature of a compromise.

It is easy to deal with the subjects-matter of clauses (a), (b), (d), (e), (f), (g), (h), and (i), for it is clear that the uses referred to in (a) and (b) involve the actual earnings, while those referred to

in (d) to (i), inclusive, do not involve actual earnings of such a

character as to be counted into the gross earnings.

The matter referred to in (c), however, are incapable of accurate analysis. In some such cases telephones are furnished to municipal or other public corporations for an actual value received, and in other cases there is no direct actual value received, although the importance and necessity of giving the corporation telephones for which no cash payment is made may be just as great as in the former case. In some cases the corporation has the right by law to exact free telephones as a condition of the grant of a franchise, in which case the telephone is leased for the actual value received; while in other cases the corporation has no such right, and therefore the furnishing of a telephone free or at a discount is a voluntary act on the part

of the operating company, for which technically it cannot be said to receive real value. It seems clear, therefore, that

it is better to adopt an arbitrary rule covering all cases in which telephones are supplied to municipal or other public corporations without payment or at a discount, and the plan adopted, as stated in the memorandum, is that in all such cases, whatever may be the circumstances or conditions, such telephones shall be counted as contributing to the gross earnings of the operating company at the rate of nine dollars a year unless a larger sum is actually received in cash.

This compromise meets with the approval of the operating companies to whom it has been submitted. The matter is of small moment, and it is dealt with only that there may be a uniform basis upon which the returns and payments shall be made by all companies.

It is believed that the advantages of the new plan, over and above the reduction involved, will be apparent. It is fair and simple and will result in the elimination of a great amount of bookkeeping that is now necessary in order to determine the telephone rentals and rebates.

I will add that it is our expectation to relieve the operating companies from the obligations of keeping a record of each telephone instrument by its serial number as is required at present. This, however, will form the subject-matter of a subsequent communication.

For convenience, I enclose also a form of vote that would be a proper form by which to indicate your assent to the plan set out in the letter.

Very truly yours, (Sd.)

F. P. FISH, President.

Copy.

Resolution to be Passed by the Board of Directors of the Southwestern Telegraph and Telephone Company as to Letter from the American Bell Telephone Company Dated November 21, 1902.

A letter dated November 21, 1902, from the American Bell Telephone Company, was presented, offering to substitute for the 1747 amount payable by this Company under its license contracts by way of rental upon telephone instruments, four and one-half per cent (4½%) of the total gross earnings of this company, as defined by said letter and the memorandum appended thereto, and thereupon it was

Voted: that such offer be accepted and that the President be authorized in the name and behalf of this Company to notify The American Bell Telephone Company of the acceptance thereof.

Copy.

The American Bell Telephone Company.

November 21, 1902.

The Southwestern Telegraph and Telephone Company, Dallas, Texas:

The American Bell Telephone Company hereby offers, until further notice, to substitute for the rental upon telephone instruments (magneto telephones and battery transmitters) payable by you under its license contracts held by you and circulars in modification thereof, four and one-half per cent (4½%) of the total grose earnings of your company, and of any sub-companies through which you may operate, from exchange, toll and private line business and from all other business done in your territory in the operation of which telephones are now or may hereafter be used, including your receipts from sub-licensees.

If in any case you have acquired, or shall hereafter acquire, any interest in a sub-licensee company operating in your territory, a portion of the total gross earnings of such company proportionate to your said interest shall be treated as a part of your total gross earnings in lieu of a like proportion of your actual receipts from that company.

The amount due for each month will be determined by the total gross earnings of the second preceding month computed as herein provided.

Said percentage will cover all instruments in use by you or under your authority in your territory, including instruments used on switchboards or for other operating purposes and those for which

no consideration is received by you, and also will cover those in stock, which last are not to exceed three per cent (3%) of the total number charged to you. It is understood that

you will use your best endeavors to limit the number of instruments

to the needs of the service.

All instruments charged to you on the last day of any month in excess of the number in use and such three per cent in stock will be rates as earnings seventy-five cents per month each instrument, and the amount of such rated earnings will be included in your total gross earnings for that month in determining the amount to be

paid by you.

A statement, over the signature of the proper accounting officer of your total gross earnings for each calendar month, computed as herein provided, with the number of instruments in use and in stock in your territory on the last day of that month, must be sent to the Treasurer of this company on or before the last day of the next succeeding month, and payment in Boston or New York funds be made on or before the tenth day of the following month, that

being the month for which such payment is due.

Further statements of instruments will be made by you at such times and in detail as this company may from time to time require. You are requested to give us early notice of your receipt and acceptance hereof, with a certified copy of the vote of your directors

authorizing such acceptance.

This offer when accepted will not become binding until this company shall declare the plan effective, and upon such declaration shall take effect as of January 1, 1902. It shall not be construed to interfere with any adjustments of rental to which you may be entitled for periods previous to said date.

In order that the method of computing total gross earnings may be uniform, the memorandum hereto appended is to be read as part

of this letter.

Yours respectively, (Sd.)

C. J. FRENCH, General Manager.

Copy.

Memorandum.

1749 In determining the total gross earnings hereinbefore referred to, the following special cases shall be treated as hereinafter indicated and methods of accounting for this purpose should be arranged accordingly.

There shall be included in such total gross earnings the value

of service, rebates or discounts allowed:

- (a) To corporations, other than public corporations, or to firms or persons, in return for pay station privileges, transportation, pole locations, attachments, rights of way, advertising, retainers and services, and generally in consideration of rights of value of any kind.
- (b) "Municipal or other public corporations, in satisfaction of taxes, assessments of rates legally imposed.

(c) "Municipal or other public corporations in return for franchise, rights of way, pole locations, and generally for rights and privileges of any kind, or as a matter of courtesy or required by municipal or public regulation, except as provided above in (b).

Instruments furnished as indicated in (a) and (b) above are to be rated as earning your standard rates for like equipment and service. Instruments furnished as indicated in (c) are to be rated as earning seventy five cents per month per instrument for local service except in cases where an amount in excess of said sum is received in cash.

There shall not be included in such total gross earnings free serv-

ice, rebates or discounts allowed:

- (d) As a matter of courtesy, except as provided above in (c).
- (e) To charitable, religious or educational institutions.
- (f) "Officers and employees of the company but not allowed as full or part compensation for services.
- (g) On toll charges, either by deductions from bills or by discount on coupons regularly issued when given under rules of the company.
 - (h) On account of defective service.
 - (i) On uncollectible accounts.

The Southwestern Telegraph and Telephone Company.

Extract from the Minutes of a Meeting of the Executive Committee of this Company Held on December 17, 1902.

"Referring to a letter dated November 21, 1902, from The American Bell Telephone Company, a copy here present, offering to substitute for the amount payable by this Company under its license

contracts by way of rental upon telephone instruments, four and one-half per cent (4½%) of the total gross earnings of this Company, as defined by said letter and the memorandum

appended thereto, and thereupon it was

Voted: That such offer be accepted and that the President be authorized in the name and behalf of this Company to notify The American Bell Telephone Company of the acceptance thereof."

Copy.

American Telephone and Telegraph Company.

December 29, 1902.

The Southwestern Telegraph and Telephone Company, Dallas, Texas:

Referring to the letter of this company dated November 21, 1902 offering until further notice to substitute for the rental upon tele-

phone instruments (magneto telephones and battery transmitters) payable by your company under its license contracts and circulars in modification thereof, four and one-half (4½%) per cent of the total gross earnings of your company computed as therein provided, and to the clause in said letter "This offer when accepted will not become binding until this company shall declare the plan effective and upon such declaration shall take effect as of January 1, 1902."

You are advised that said plan is hereby declared effective as

of and from January one, nineteen hundred and two.

Our Treasurer will send to you at early date a request for the necessary information to enable him to determine the amount to be credited to your company for the year 1902 under the above offer.

Yours respectfully,

(Sd.)

C. JAY FRENCH, General Manager.

Discontinuance of Individual Numbers on Instruments.

Copy.

American Bell Telephone Company.

December 11, 1906.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

Gentlemen:

For the greater convenience of the operating companies in accounting for telephone transmitters and receivers, it has been decided to discontinue the practice of placing special

individual numbers upon such instruments.

In the future, therefore, it will be necessary for operating companies to keep such records only as will enable them to report by code number the quantity of each style of instrument that may be returned, lost, stolen or destroyed, or in any way subject to credit.

Owing to the large stock of new instruments in hand or in process of manufacture which have already been numbered, it will be impossible to eliminate the numbers from the individual instruments for some time to come. In reporting instruments, however, these numbers may be disregarded.

Yours truly,

R. W. DEVONSHIRE, General Manager.

Copy.

American Bell Telephone Company.

Boston, Mass., July 25, 1907.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

GENTLEMEN:

In order to facilitate the delivery and return of instruments, we have arranged that hereafter telephones, transmitters and parts of instruments may be ordered direct from the Western Electric Com-

pany by the following method:

Beginning August 1, 1907, orders for new instruments may be sent to the house of the Western Electric Company from which you are now buying telephonic apparatus. For this purpose you may use either our form No. 152H (changing the address to Western Electric Company) or your own regular requisition blanks. All orders must be made in the name of the company holding contract with the American Bell Telephone Company.

Receipt Forms.

The present receipt forms or similar forms to be furnished by the Western Electric Company will be required, and should be promptly signed by you and returned to the Western Electric house which takes your order.

Parts.

Parts of instruments for ordinary repairs now sold by this Company will, after August 1, 1907, be furnished and billed you by the Western Electric Company.

Returned Instruments.

Defective instruments may be returned by you to the nearest Western Electric warehouse. In this connection Form 159J will be used, the original being sent you by mail to Western Electric Company, and the duplicate with the instruments. Any missing parts will be charged to you by Western Electric Company, and any excess parts will be credited to you by that company.

Carriage Charges.

The Western Electric Company will pay the carriage charges from its factory to its warehouse nearest your territory, or, when instruments are shipped from factory, will make the same freight allowances as on telephonic apparatus. In the case of instruments returned, carriage charges to nearest Western Electric warehouse will be borne by you.

You will note that under this arrangement you will have some carriage charges, and, by reason of the proximity of a stock of instruments at the Western Electric warehouses, will find it possible to carry a smaller stock.

Yours very truly, (Sd.)

R. W. DEVONSHIRE, General Manager.

Copy.

American Telephone and Telegraph Company.

September 6, 1907.

1753 The Southwestern Telegraph and Telephone Company, Dallas, Texas.

GENTLEMEN:

We enclose a letter from The American Bell Telephone Company in relation to the sale of telephones, transmitters and telephonic apparatus which meets with our approval and with that of the officials of the operating companies generally. There are conditions existing which make it very desirable to have the Western Electric Company take the field promptly and we will appreciate action by your Company at the earliest possible date.

Yours very truly, (Sd.)

EDW. J. HALL, Vice President.

Copy.

American Bell Telephone Company.

September 6, 1907.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

GENTLEMEN:

There has been a very general expression of opinion in which we concur, that it would be desirable to have the Western Electric Company authorized by us to sell telephones, transmitters and telephonic apparatus freely in the open market to all buyers.

If you are in accord with this view, please send us as soon as you can conveniently a certified copy of a vote of your directors or Executive Committee, expressing the consent of your Company in the form which we enclose for your convenience.

Yours very truly,

(Sd.)

R. W. DEVONSHIRE, General Manager.

Copy.

Whereas it has been found desirable that The American 1754 Bell Telephone Company should have the power to authorize The Western Electric Company to sell telephones and Trans-

mitters in the open market to all buyers, and

Whereas the exclusive right to use telephones for certain purposes granted to this Company by said The American Bell Telephone Company in its license contracts may be construed to prevent such

Resolved: that the President be authorized to notify The American Bell Telephone Company that this Company agrees that said license contracts shall be so construed as not to prevent The American Bell Telephone Company from authorizing such sale.

Copy.

The American Bell Telephone Company.

Boston, October 3, 1907.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

GENTLEMEN:

Referring to the vote of your Executive Committee passed September 17, 1907, touching the sale of telephones and transmitters in the open market to all buyers, I am authorized to accept for The American Bell Telephone Company the construction of a license contract expressed in said vote and to inform you that this Company will act in accordance therewith.

Yours very truly, (Sd.)

THEO. N. VAIL, President.

Copy.

American Telephone and Telegraph Company.

October 9th, 1920.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

GENTLEMEN:

Your system of lines and exchanges has heretofore been operated solely with instruments furnished by this Company. Even in the case of a sublicense, sublicensee has been required to use such instruments upon all lines connecting with your

system. As the Western Electric Company is about to sell telephone instruments and appliances, it seems to us that this is an appropriate time to revise and extend somewhat rules which have heretofore been followed with regard to the telephone instruments to be used upon connecting lines. We suggest, therefore, that hereafter in making sublicenses and contracts for the interchange of business you do not limit yourself solely to those who use telephones furnished by us or sold by the Western Electric Company but that, in appropriate cases, you make such contracts with companies and individuals even when they use other telephones, provided first class instruments are used and the lines are maintained and operated at such a standard of efficiency as not to impair the quality of service furnished over the joint lines.

This connection with such companies and individuals should be limited to farmers' lines, so-called, or lines of a similar character, to lines operated by railroad, and to all exchanges located wholly within your territory and not connected with lines and exchanges

in the territory of any other of our licensees.

It is important in making such contracts that great care be taken, in order that no system may be built up that will impair the value to the public of your own system or interfere with the system established by your neighbors.

Yours very truly, (Sd.)

THEO. N. VAIL, President.

Copy.

American Bell Telephone Company.

Delivery of Telegraph Messages.

March 25, 1910.

The Southwestern Telegraph and Telephone Company, Dallas, Texas.

GENTLEMEN:

Referring to the provisions in our License Contract for the delivery to this Company or its appointees of telegraph messages and particularly to our circular letter of May 2nd, 1898 under which you receive the entire commission payable to this Company by telegraph companies on messages turned over to such companies, this company believes that it will be for the advantage not only of telephone subscribers but also of the public that no distinction be made between the collection and delivery by telephone of such messages and other communications by telephone and that the telegraph companies be permitted to receive and deliver telegraph messages by any exchange telephone installed at the usual business rate. This Company, therefore, releases you from any obligation to keep an account of such messages and recommends that

the practice of furnishing telephones to telegraph companies especially for the receipt and delivery of telegrams be discontinued and that telegraph companies be permitted to use therefor any exchange telephone that is furnished at the usual business rate.

Yours respectfully,

R. W. DEVONSHIRE, General Manager.

Copy.

The American Bell Telephone Company.

December 16, 1912.

Mr. H. J. Pettengill, President

The Southwestern Telegraph and Telephone Company, St. Louis, Mo.

DEAR SIR:

The American Bell Telephone Company hereby offers to substitute the following method of computing total gross earnings in place of the method described in our letter of November 21, 1902, and subsequent interpretations thereof.

The total gross earnings, for the purpose of determining the amount, of which you pay us $4\frac{1}{2}\%$, shall comprise the accounts described and defined in our Accounting Circular No. 8 as follows:

Account 500 Subscriber's Station Revenues.

501 Public Pay Station Revenues. 504 Private Exchange Lines.

510 Message Tolls.

1757 From the total of the foregoing shall be deducted—Account 304 Uncollectible Operating Revenues.

To the difference between the aforesaid revenues and the aforesaid deductions therefrom shall be added:

- a) The sum of seventy-five cents per instrument per month for all instruments not in use in excess of 3% of the total number standing charged to you on the last day of such month (the 3% representing the maximum number believed to be necessary for stock). This is the present basis as to excess stock.
- b) For sublicensed or other operating telephone companies not directly licensed by this Company in which you own a majority of the stock and which are in effect operated as a part of your telephone system the same proportion of their gross revenues (computed as aforesaid) as the proportion of their stock which you own.

Note.—On application for the exclusion of such gross revenues of any such subsidiary company the question will be carefully considered and determined on the facts in each case.

The purpose of this offer is to simplify the method of computation and to bring it closely into conformity with the accounting

system established by the Interstate Commerce Commission.

This method of computation will take effect January 1, 1913, for those licensees which accept it prior to January 31, 1913. first bills on the new method of computation will be those rendered early in March 1913.

A suggested form of resolution for the purpose is enclosed herewith. If adopted by your company kindly have the Secretary send

to me a certified copy of such action.

Yours truly.

(Sd.)

C. C. DU BOIS, Comptroller.

Copy.

A letter, dated December 16, 1912, from The American Bell Telephone Company was presented, offering, for the purpose of determining the amount of gross earnings of which this Company pays Four and a Half Per Cent, to substitute in place of the method now in use the method set forth in said letter and thereupon it was

Voted: that such offer be accepted and the President be authorized in the name and behalf of this Company to notify The American

Bell Telephone Company of its acceptance thereof.

1758

Copy.

January 14th, 1913.

American Bell Telephone Company, Mr. C. G. Du Bois, Comptroller, 15 Dev Street, New York, N. Y.

DEAR SIR:

At an adjourned special meeting of the Executive Committee of The Southwestern Telegraph and Telephone Company held today, it was voted to accept the offer contained in your letter dated December 16, 1912, relating to the payment by way of reutal to your Company of four and one-half per cent (41/2%) of the total gross earnings of this Company.

I enclose a certified copy of the vote.

Yours truly.

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY,

J. P. CROWLEY, (Sd.)

Secretary.

Copy.

The Southwestern Telegraph and Telephone Company.

Extract from the Minutes of a Meeting of the Executive Committee of this Company Held on January 14, 1913.

"A letter dated December 16, 1912, from The American Bell Telephone Company was presented, offering, for the purpose of determining the amount of gross earnings of which this Company pays Four and a Half Per Cent, to substitute in place of the method now in use the method set forth in said letter, and thereupon it was

Voted that such offer be accepted and the President be authorized in the name and behalf of this Company to notify The American

Bell Telephone Company of its acceptance thereof.'

Copy.

Shreeve and Vacuum Tube Repeaters.

The American Bell Telephone Company,

125 Milk Street.

P. O. Drawer 2.

1759

Boston, March 28, 1916.

Southwestern Telegraph & Telephone Co. (N. Y.), St. Louis, Missouri,

Mr. H. J. Pettengill, President.

DEAR SIR:

I enclose a copy of two resolutions adopted by the Executive Committee of the American Telephone and Telegraph Company on March 15, 1916, relative to furnishing to the associated companies Shreeve and vacuum tube repeaters. A copy of our General Coursel's opinion upon this matter is also enclosed, as perhaps of interest.

If your company's construction of the License contract as amended, agrees with that set forth in these resolutions, will you please ask your Board of Directors or Executive Committee to pass

a resolution assenting to this construction?

At your convenience please advise me of your company's action.

Yours truly,

(Sd.)

R. W. DEVONSHIRE, General Manager.

Resolved: that the officers of this Company be and they are hereby directed to advise each of the associated companies that the license contracts, as amended, existing between this Company and each of its associated companies do not, as construed by this Company, require this Company to furnish to the associated companies what are

known as Shreeve and vaccum tube repeaters without a specific charge therefore in addition to the Four and One half per cent,

(4½%) payments under said contracts.

Resolved further: that the officers of this Company be permitted to furnish said repeaters without specific charge therefor in addition to said four and one-half per cent $(4\frac{1}{2}\%)$ payment, to such of the associated companies as accept this construction of the said license contracts, upon the definite agreement by said companies that this

Company shall at any time have the right to discontinue said practice and to make reasonable charges, in addition to said four and one-half per cent (41/2%) payment, for all such

repeaters thereafter ffurnished.

Copy.

New York, February 17, 1916 (M. R.).

Memorandum for U. N. Bethell, Esq., Senior Vice-President.

The Shreeve and Vacuum tube repeaters are devices for extending the radius for communication by telephone. When used in connection with telephonic communication, each of these devices accomplishes this purpose by reproducing in the relatively strong electric current passing through a second circuit the electrical undulations which characterize a much diminished current passing through the preceding circuit, the preceding circuit being connected with the second circuit through the repeater. The variations to be effected in the current in the second circuit are in each instance identical, this being accomplished in the case of the Shreeve repeater through mechanical means and in the case of the vacuum tube repeater through electrical means. So far as the question under consideration is concerned, it is unnecessary to make any distinction between the two classes of repeaters.

The question which is presented to me is whether these repeaters are telephones which the terms of the license contracts require this company to furnish to its associated companies as a part of the consideration for which the four and one-half per cent $(4\frac{1}{2}\%)$ payment is made. In my opinion, this question should be answered in

the negative.

I think it clear that each of these repeaters in a telephone in the sense that if the Bell patents had not expired, it could not legally be manufactured and sold except by license under them. This,

however, is not the question.

The license payment did not pay for everything which the licensor was bound to furnish under the contracts. It paid the rental for the telephones which were leased but did not pay for "the inventions and call bells, switches, switchboards and other apparatus needed for such telephones lines which it (the licensor) can so license."

Giving due weight to all of the provisions of these original contracts, it is my conclusion that by the telephones to be

furnished under them were meant the instruments which were to be furnished to the subscribers for their use and for which the licensees were to charge subscribers such rentals and royalty as might be fixed

from time to time by the licensor.

If there was any doubt under the original contracts, I think it is removed by the modification of these contracts by which four and one-half per cent $(4\frac{1}{2}\%)$ of the gross earnings was fixed as the measure of the payments under them. This modification was made by letter, sent to each of the licensee companies under date of November 21, 1902, and accepted by each of these companies. This letter contains the following language:

"The American Bell Telephone Company hereby offers, until further notice to substitute for the rental upon telephone instruments (magneto telephones and battery transmitters) payable by you under its license contracts held by you and circulars in modification thereof, four and one-half per cent $(4\frac{1}{2}\%)$ of the total gross earnings of your company."

What has been underscored definitely describes the telephone instruments which the associated companies are entitled to have furnished in consideration of this payment. They are magneto telephones and battery transmitters. This language had at the date of said letter, and has now, a well defined meaning which does not include repeaters. Moreover, no repeater available for commercial use had been developed at the time these letters were written.

The number of repeaters now in use is very small, and no charge is being made for them. I think it desirable that this practice be continued so long as there is no extension in their use, but it should be with the definite understanding that the Company is not under obligation to continue it, and that it is without prejudice to the right of the Company to require payment for the repeaters at any time

that it may wish to do so.

Yours very truly,

(Sd:)

N. T. GUERNSEY, General Counsel.

Copy.

Southwestern Bell Telephone System.

April 25, 1916.

1762 The American Bell Telephone Company, Mr. R. W. Devonshire, General Manager, 125 Milk Street, Boston, Mass.

DEAR SIR:

I enclose herewith copy of a resolution passed by the Executive Committee of The Southwestern Telegraph and Telephone Company (New York) at a meeting held on April 25, 1916, relative to Shreeve and vacuum tube repeaters.

Yours truly,

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY (N. Y.).

(Sd.) J. P. CROWLEY,

Secretary.

Copy.

American Telephone and Telegraph Company,

Telephone and Telegraph Building,

195 Broadway.

New York, December 5, 1917.

Mr. H. J. Pettengill, President, Southwestern Bell Telephone System, St. Louis, Mo.

DEAR MR. PETTENGILL:

The Executive Committee of this Company, in view of the extraordinary conditions due to the state of war now existing, today adopted a resolution authorizing the computation of the originating commissions payable under existing contracts by this Company to your companies, upon the following basis, beginning January 1, 1918:

- (a) Where the "L" operator of the associated company as defined by this Company's operating rules is in charge of the communication, 25% of the cash receipts from each single connection upon which the associated company is entitled to a commission, not exceeding 30¢ for any single connection.
- (b) Where the "L" operator of this Company as defined by this Company's operating rules is in charge of the communication, 25% of the cash receipts from each single connection upon which the associated company is entitled to a commission, not exceeding 12¢ for any single connection.
- (c) On business originating at pay stations upon which the associated company is entitled to a commission if in class (a) twice the commission above provided for class (a) business, and if in class (b), twice the commission above provided for class (b) business.

This is upon the condition that this Company reserves the right at any time to discontinue the payment of said commissions upon the terms stated in this letter, and to resume their payment upon the terms of said contract. Please advise me at your convenience whether or not this temporary modification of these contracts is acceptable to you and your Executive Committee or Board of Directors.

Very truly yours,

(Sd.)

U. N. BETHELL, Vice President,

Copy.

Southwestern Bell Telephone System.

St. Louis, December 19, 1917.

Mr. U. N. Bethell, Senior Vice President, American Telephone and Telegraph Company, 195 Broadway, New York.

DEAR MR. BETHELL:

On behalf of The Southwestern Telegraph and Telephone Company, I accept the offer increasing the rates of originating commissions, as outlined in your letter of December 5th.

Extract from the minutes of the Board of Directors' Meeting, giv-

ing me authority to accept the offer is enclosed herewith.

Yours very truly,

THE SOUTHWESTERN TELEGRAPH AND TELEPHONE COMPANY.

(Sd.) H. J. PETTENGILL, President.

The Southwestern Telegraph and Telephone Company.

Extract from the Minutes of a Meeting of the Board of Directors Held on December 18, 1917.

The President submitted the following letter (set out on page 110) from the Vice President of the American Telephone and Telegraph Company:

"Voted: That the President be and he hereby is authorized to accept the offer as outlined in above letter, and to notify the American Telephone and Telegraph Company in writing of said acceptance."

No. 147.

Valuation of Instrument Service.

Quantities Oct. 1, 1919.	Transmitters.	Receivers.
In use at Subscribers' Stations	. 26,693	26,693
In use on private lines		27
In use at Switchboards		674
In use for testing purposes	. 79	67
In use for advertising purposes	. 5	5
Left on Subscribers' premises	. 26	26
In stock	. 811	882
Total chargeable to Houston Ex	. 28,305	28,374
Average No. of sets $(28305 + 28374 \div 2)$.		28,340
Total Subscribers' stations, Houston, Oct. 1,	1919	26,693
Ratio of sets to stations		1.06
First Cost F. O. B. Houston	Per Set.	
Transmitters		2.00 ea.
Receiver		1.50 "
Induction coil		.95 "
Total	***	\$4.45
Annual Charges (in Percentage o	f First Cost).	
Reserve for replacements		. 11%
Return on investment		8%
Repairs		. 11/2%
Administration		. 1%
Contingencies		2%
0		. 470
Total		. 231/2%
Annual Cost.		
Per Set (\$4.45 x 23½) Per station in service \$1.04 x 1.06)		\$1.04 ea. 1.10 "

The Southwestern Telegraph & Telephone Company.

Houston, Texas.

17	Valuation of Instrument Service.	
1.	Total licensee payment to A. T. T. Co. from Houston Exchange for the year ending Oct. 31, 1919	\$42,791.92
2.	Average No. of stations in service at Houston during same year	25,946
3.	- to the station now annum	\$1.65
4.	Value of instrument service per station per annum	\$1.10
5.		φ.00
6.	Or a payment per month for all other services of	\$.046
7.		\$28,541.00
8:	Houston exchange payment for all other services for year ending Oct. 31, 1919 (\$42,792—\$28,541)	\$14,251.00

No. 148.

"Photograph of Inductive Vacuum Tube Telephone Repeater Cord Circuit for Non-Loaded Lines."

This exhibit shows a type of telephone repeater furnished the Southwestern Company by the American Company under the terms of the Licensee Contract. A repeater of this type was installed in Houston in June 1917.

No. 149.

"Map of United States Showing Range of Transmission from Houtton with and Without the Use of Telephone Repeaters."

This exhibit is a map of the United States showing the 1766 area of satisfactory telephone transmission radiating from Houston before the introduction of the telephone repeater and the area of such transmission after the introduction of the repeater. The exhibit shows that before the repeater was installed in the Houston Exchange a person in Houston could carry on a satisfactory communication by telephone with persons in Louisians, Mississippi and Arkansas, the Western half of Alabama, Tennesse and Kentucky, the extreme southern part of Illinois, the southern part of Missouri, the eastern half of Kansas and Oklahoma, and the greater part of Texas, excepting the extreme western part. After the repeater was installed the exhibit shows that a person in Houston

may satisfactorily communicate over the telephone with another person at any point anywhere in the United States.

No. 150 & 151.

"Photographs of 'Cable Bug' or Scobicia Declivis."

These exhibits present illustrations of the details to which the Research & Development Engineering Department of the American Company assists the Southwestern Company with problems arising in its territory. The caule bug attacked the aerial cables in Texas and the Southwestern Company submitted the matter to the American Company for study of methods to prevent such destruction.

No. 152.

"Estimate of Savings Resulting from a Few of the Services Other Than Instrument Service."

1767 The following is an exact copy of this exhibit.

The Southwestern Telegraph & Telephone Co.,

Houston, Texas.

Oct. 1, 1919.

is Angener

ar it is

Conservative Estimate of Savings Resulting from a Few of the Services Other Than Instrument Services.

	Annual savings.
 Improvement in cables by use of fine wire. Duct Saving due to improvement in Cables. New alloy for Cable Sheaths. Improvement in Switchboards Cords. 	17,300
Total	\$138,100
Number of stations Houston, Oct. 1, 1919 Evaluated saving per year per station for certain en	26,693
neering services other than instrument service Actual 4½% payment per station per year for all se	5.18
ices other than instrument services	55
In the 1	

In the above table nothing has been put down for the value of many other engineering services or the services of the

- 1. Legal Department.
- 2. Patent Department.
- 3. Value of Patent Protection.

1768 4. Comptrollers Department.

- 5. Insurance Department.
- 6. Financial and Administration Departments.

The service of these departments is of very great value to the Southwestern Telegraph & Telephone Company. It will be seen that the evaluated saving of a few of the engineering improvements due to the work of the General Engineering Staff of The American Telephone & Telegraph Company are nearly ten times as great as the payment to the American Telephone & Telegraph Company for services other than instrument services.

No. 153.

"American Telephone & Telegraph Company Specification #3850, Covering Substation Protector Installation."

This exhibit consists of a hand-book specification of 31 pages prepared by the Engineering Department of the American Company and consists of written matter and numerous diagrams and illustrations showing what it considers to be the most improved method for installing substation protectors.

No. 154.

"Photographs of Construction Work in the Houston Exchange Conforming to American Telephone & Telegraph Company Specifications."

This exhibit consists of nine photographs of construction work in different parts of Houston and diagrams taken from American Telephone & Telegraph Company hand-book construction 1769 specifications, showing where these specifications have actually been used in building the Telephone plant at Houston as follows:

Photograph Λ.—Construction at the corner of McGowan and Louisiana Streets, illustrating the use of Diagram 70 of American Telephone & Telegraph Company Specifications #3235.

Photograph B.—Construction work on Mt. Vernon Street east of West Main Street, illustrating the use of Diagram 75 of American Telephone & Telegraph Specifications #3235.

Photograph C.—Construction work on West Main Street, illustrating the use of diagram- Nos. 34 and 56 of American Telephone & Telegraph Specifications #3235.

Photograph D.—Cable construction on Dumble Avenue south of Harrisburg Blvd., illustrating the use of Diagrams 37 & 85 of American Telephone and Telegraph Specifications #3235.

Photograph E.—Construction work at the corner of Adams Street and Harrisburg Road, illustrating the use of Diagram 81 of the American Telephone & Telegraph Specification #3235.

1770 Photograph F.—Construction work on West Alabama Street east of Travis Street, illustrating the use of Diagrams 35 and 65 of American Telephone & Telegraph Specification #3235.

Photograph G.—Construction work between Walker & McKinney Avenues, Maplewood and Linwood, illustrating the use of Diagram 1 of American Telephone and Telegraph Specification #3235.

Photograph H.—Block Cable at the corner of Webster and Bagby Streets, illustrating the use of Diagrams 93 and 95 of American Telephone & Telegraph Specifications #3235.

Photograph I.—Block Cable work between Main and Fannin Streets, Texas and Capitol Avenues, illustrating the use of Diagram 93 of American Telephone & Telegraph Specification #3235.

No. 155.

"American Telephone & Telegraph Company Engineering Department Local Operating Text Book, Traffic Circular #113."

This exhibit consists of 147 pages of printed matter covering all features of local operating. It shows the details with which traffic problems have been studied by the American Company and the form in which the American Company presents the results of its studies. The following is a copy of the Table of Contents in this exhibit:

Table of Contents.

a dott of continue.	
	No. of pages.
Subscribers' lines and central office	3
Apparatus used in establishing local multiple connections	5
Answering calls	2
Apparatus used in establishing call circuit trunk connections Establishing call circuit trunk connections	1
Apparatus used in establishing tandem trunk connections. Establishing tandem trunk connections.	2
Apparatus used in establishing ring-down trunk and built-up)
connections Establishing ring-down trunk connections	2
Establishing built-up connections—first trunk used a ring- down trunk.	2
Establishing built-up connections, first trunk used a call circuit trunk	
Classes of service	3

	No. o
A-B Toll calls	
Two-number toll board calls	. 2
Long Distance calls	. 1
One-light disconnect signals	. 1
Busy Reports (No audible busy signal)	. 2
Busy Reports (Audible busy signal)	. 3
1772 Completing busy calls	. 2
Out of order reports	. 2
Completing out of order calls.	. 2
Slow answer calls (No audible ringing signal)	. 2
Slow answer calls (Audible ringing signal)	. 2
Completing don't answer calls	. 2
Completing don't answer calls. Delayed calls (No audible ringing signal).	. 3
Delayed calls (Audible ringing signal)	. 3
Completing deleved calls	. 2
Completing delayed calls	. 2
Flas-ing supervisory signals (Audible ringing signal)	. 2
Canceled and abandoned calls (No audible ringing sign.)	. 1
Canceled and abandoned calls (Audible ringing sig.)	, 1
Canceled and abandoned calls (Audible ringing signal) Multiple marking calls	. 1
Reverting calls	. 4
Organization	. 1
Organization Calls for Official lines	. 2
Emergency calls	. 2
Telegram calls	. 2
Restoring connections	. 3
Wrong number calls	. 2
Double connections	. 2
"Bell rang" reports	1
Information calls	1
Rural line calls	. 1
Equipment trouble	. 1
1773 Service criticisms	1
) 1
Traffic record—peg count (No audible ringing signal) 1
Traffic record—peg count (Audible ringing signal)	. 1
Miscellaneous conditions	. 2 7 3
Use of phrases	. 1
Writing tickets	. 3
General regulations for operators	. 1
Special instructions for night operators	. 1
Appendix—Outline of Junior Operators' instructions	. 7

No. 156.

"Titles of some of the Circular Letters and Specifications which the American Telephone and Telegraph Company Have Prepared for the Associated Companies, Copies of which have been Received by the Southwestern Company."

This exhibit is a pamplet of 29 pages showing the titles of various circular letters and specifications prepared by the American Com-

pany covering all phases of the Telephone plant construction, maintenance, and operation. On pages 1 to 18 inclusive is a list of 469 different circular letters each covering a different subject. On pages 19 to 29 inclusive is a list of 248 specifications, each covering a different subject. These circular letters and specifications relate to central office equipment, outside plant, substation apparatus, telephone buildings, underground construction, private branch exchanges, maintenance, transmission, operating methods, etc.

1774

5. 157.

"1918 National Electrical Code Published by the National Board of Fire Underwriters."

This exhibit gives the electrical code established by the National Board of Fire Underwriters, and is an example of a National problem affecting the Southwestern Company, in the consideration and solving of which problem the American Company's engineers represent the Southwestern Company under the terms of the licensee arrangement.

This exhibit was presented to show this type of work.

No. 158.

"Book, a Preliminary Report Prepared by the American Committee on Electrolysis."

This exhibit is a report on electrolysis submitted by a National Committee of engineers, on which committee the engineers of the American Company under the terms of the licensee arrangement represented the Southwestern Company.

No. 159.

"American Telephone & Telegraph Company Specifications, #3636, for Crossings of Telephone Circuits Over Steam Railroad Right of Way."

This exhibit, consisting of ten pages of printed matter, was prepared and issued by the American Company and deals with the subject mentioned in the title.

No. 160.

"United States Bureau of Standards' Circular #54, National Electrical Safety Code."

This exhibit is a circular of 323 pages giving the result of many conferences between experts representing the Bureau of Standards, various electric light interests, and various telephone and telegraph interests throughout the United States.

No. 161.

"Partial List of Specific Work Done on Problems for the Southwestern Telegraph & Telephone Company by the General Engineering Staff of the American Telephone & Telegraph Company."

This exhibit, consisting of 15 pages of typewritten matter presents a list of some of the engineering construction, maintenance and operating problems relating to the Houston Exchange and other exchanges of the Southwestern Company in which the American Company gave advice and assistance to the Southwestern Company. The following is a copy of pages 1, 2, 6, 8, 10 and 13 of this exhibit: These pages illustrate the nature and importance of some of the specific problems.

Fundamental Plans.

Houston.

A fundamental plan is a guide to future construction work. It is a carefully worked out forecast of what the telephone conditions will be in fifteen or twenty years. It is, therefore, important to secure high grade engineering talent in working out such plans. In this we have the assistance of the experts of the American Telephone & Telegraph Company. The foundation of a fundamental

plan is a commercial survey. Two commercial surveys have 1776 been made for the City of Houston, Texas, in recent years.

In 1911, a commercial survey was made for Houston and surrounding suburban territory to serve as the basis for a fundamental plan (ultimate 1926). The direction and character of development of Houston was peculiarly uncertain at this period on account of changing conditions affected by the Ship Canal. For this reason, when conditions became somewhat more clearly established, a new commercial survey was made in 1914 as a basis for another fundamental plan (ultimate 1929).

Engineers from the General Engineering Staff advised, co-operated and assisted in both of these commercial surveys. All told, the Staff engineers devoted the following number of days in Houston to this

work:

Mr. C. H. Arnold		days
Mr. C. Wallace		days
Mr. A. E. Plumer		days
Mr. W. G. Holt		days
Mr. R. R. Copp	43	days
-	308	days

In addition to this time actually spent at Houston, a considerable amount of time was devoted by the Staff engineers to the consideration, at New York and Dallas, of certain details of the Houston surveys.

The following fundamental plans have been made for Houston, Texas.

1777 Ultimate-Date of Date of study. ultimate. Lines. Stations. Population. 1904 1920 5,400 7.700 77,000 1906 1920 26,600 35,000 175,000 1912 1926 24,000 31,324 197,000 1915 1929 33,299 50,749 245,000

The 1904, 1906 and 1912 plans were made entirely by the General Engineering Staff. The 1915 plan was made by the Southwestern Company. The Staff engineers reviewed the results of this plan

and approved it.

Of the total telephone plant now in Houston, about 50% has been placed in accordance with fundamental plans or a total of about \$3,000,000.00. It is estimated that by 1929, we will have spent an additional \$2,500,000.00 for telephone plant in Houston in accordance with the fundamental plan.

Buildings and Central Office Equipment.

Houston.

When the Preston, Hadley and Taylor Buildings were built in Houston, the plans were submitted to the General Staff for their criticism and comment. They were carefully reviewed from every standpoint before the work was started. Inasmuch as these buildings represent an investment of some \$400,000.00, the importance of reviewing the plans before they were erected is apparent.

The General Staff worked with the Southwestern Company in the preparation of the Central Office equipment specifications for the Preston and Hadley exchanges. They furnished certain standards from which these specifications were prepared and were of asistance in engineering this equipment which represents an

investment of some \$800,000.00.

We have more or less trouble due to moisture in our Houston Central Office and have taken up with the General Staff, methods of remedying the trouble. They have advised regarding moistureproof plug shelves and moisture-proof switchboards cable at Houston.

On account of the large number of extremely long lines connected with the Houston Office, much difficulty was experienced with the operation of the circuits. At the request of the Southwestern Company, the General Staff made a careful study of the situation and designed long line equipment to overcome the difficulties and also a method of signalling on these long lines.

General.

The Southwestern Telegraph & Telephone Company has received assistance from the General Staff on a great many matters relating

to central office equipment and buildings. It is in this field of engineering work that the General Staff have made notable progress in the matter of standardization. Many circuits and types of switch-

boards have been tried out by the General Staff and the results of these investigations have been made available to the

Southwestern Company. There is a frequent interchange of correspondence between the companies on this subject and many personal conferences. Some of the typical subjects discussed from which some idea may be gained of their range and importance are listed below:

Gave specific advice as to the best method of lighting operating rooms and also a method of rear lighting for the switchboards.

Furnished handbook of telegraph circuits and information on printing telegraph apparatus.

Gave specific advice as to the wear permissible in switchboard jacks and advised regarding the sleeve gauge to be used in testing jacks. Advised regarding inspection and maintenance tools for switch-

board plugs and jacks.

Gave advice regarding gas engine troubles and advised regarding different types of gas engines and the handbooks issued for operating them.

Outside Plant.

General.

The files of the engineering department of the General Staff show that the Southwestern Company has requested advice from the General Staff in regard to very many specific matters relating to outside

plant. Many of them have to do with the proper construction to employ to meet the peculiar conditions of a specific 1780

case. In other instances the question involved concerned the application of standard arrangements to conditions more or less general to the Southwestern Company territory, and in such cases information given in regard to a specific case also applied to a considerable number of other similar cases. Below are given a few typical cases of advice in regard to outside plant matters given the Southwestern Company.

Gave specific advice with regard to the preservation of poles. Gave specific advise relative cypress poles and their treatment. Furnished information regarding inspection of creosoted material.

Gave specific advise regarding the samples of creosote for application to pole butts.

Inspected creosoted pole lines in Texas and advised concerning same.

Furnished complete information regarding analysis of dead oil of coal tar for treatment of poles.

Gave specific advice and information regarding open tank treat-

ment for poles.

Furnished specific advise regarding butt treatment of poles and the general results of such treatment.

1781 Advised concerning creosoted pine poles vs. Cedar poles.

Advised regarding samples of pothead wire.

Furnished information regarding life of galvanized iron wire on the Gulf Coast.

Advised concerning enameled distributing frame wire.

Gave specific advice regarding new type #22 gauge aerial cable. Furnished at various times, upon request, much detailed information regarding conditions under which joint use of poles could be record into with electric light companies.

entered into with electric light companies.

Advised regarding use of #8 soft copper wire in joint use con-

struction.

Protection of Life and Property.

Houston.

The Insurance Department of the General Staff has reviewed 35 of our semi-annual maintenance inspection reports of the three Central Office Buildings in Houston between 1911 and 1919, with a

view of reducing the fire risk.

The Insurance Department of the General Staff has recently succeeded in getting the State Insurance Commission of Texas to recognize the fairness of their request for substantial rate reduction in telephone properties in Texas. This has resulted in a saving of about 33% in insurance premiums for the three exchange buildings

in Houston.

1782 The Insurance Department of the General Staff has sent its own experts to Houston to inspect our Preston building three times, Hadley building four times and Taylor building three times during the years 1916, 1919 from an insurance standpoint, and made recommendations for improving the risk and further reducing the insurance rates.

Advised concerning a form of contract and concerning the type of protection where signaling lines of private power lines are connected

to our telephone plant at Houston.

General.

The General Staff has furnished the Southwestern Company a great deal of information on this important subject. They have made studies of protective devices and methods used throughout the United States and have made the results of these studies available to the Southwestern Company. A partial list of the subjects covered is as follows:

The Insurance Department of the General Staff has sent its experts over the territory of the Southwestern System to inspect the various Central Office Buildings and has made many written reports

and suggestions in regard thereto.

They have reviewed the semi-annual inspection reports we make with a view of reducing insurance premiums on all the central office buildings we own.

1783 They have studied proposed building plans with a view of designing the buildings so that a minimum fire risk would be run and the insurance kept to a minimum.

Gave specific advice on the question of installing tarpaulins for

switchboards in small offices.

Gave information regarding the National Electrical Safety Code, United States Bureau of Standards, discussed safety appliances and instructions for employees.

Analyzed accidents to operators and methods to avoid same.

Traffic and Operating.

Houston.

Mr. Christensen of the Generall Staff, visited Houston studying service observing. He is a specialist in this line of work and gave our people the benefit of his experience with respect to local conditions at Houston. The object of these studies is to give an exact and comprehensive picture of the grade of service being rendered so that we may observe from time to time exactly what grade of service we are rendering the public, with a view of taking steps to improving it whenever it shows a tendency to fall below standard.

Mr. Allen, a representative of the General Staff, visited
Houston going over the details of the method of making peg
counts and the equipment necessary for same, giving advice

and information to our people in regard to many points upon which questions had arisen. The peg count, which is a record of the number of calls handled by the operators, is taken about once a month and is important in that it is the foundation upon which our switchboards are engineered and is a means by which we determine the number of operators required at the switchboards to handle the calls.

Another representative, Mr. R. E. Walker, of the General Staff visited Houston, giving advice in regard to wages and working conditions of operating employees. Experience in this regard elsewhere is of valuable assistance to the Southwestern Company.

The General Staff has made a study of service standards for Houston and has made valuable suggestions in regard thereto, to the

Southwestern Company.

General.

It is quite important to develop uniform practices in operating methods in the various cities. The services of the General Staff have been particularly valuable in this respect in that they furnish the Southwestern Company the results of numerous studies of different methods throughout the United States and have made suggestions relative to changes that would improve the service

and also reduce operating cost. Some of the subjects on which they have advised the Southwestern Company are

given below:

Furnished complete information and data regarding proper operating loads which could be satisfactorily handled by operators of various degrees of experience.

Advised regarding "A" operator ticket forms.

Gave method of operating rural magneto lines on #1, #8 and #105 switchboards.

Advised regarding standard operation of #8 switchboards.

Outlined routine for handling service criticisms received at Central office.

Transmission.

Houston.

The Engineers of the General Staff in co-operation with the engineers of the Southwestern Company made a transmission study for Houston which demonstrated that it would be possible to extend the use of fine wires in trunk cables and subscribers' cables which resulted in considerable saving in annual costs.

The General Staff has furnished the Southwestern Company complete information on the transmission efficiency of various 1786 types of circuits and app-ratus. These data have been of

fundamental value in the design and construction of the telephone plant at Houston, so as to obtain satisfactory transmission in the best and most economical manner.

Furnish drawings and necessary information for the repeater in-

stallation at Houston.

General.

Under the heading of transmission comes all questions concerning the loudness and clearness of speech transmission. The study of the different parts of the Telephone plant with respect to their effect on the transmission of speech is a valuable service rendered by the General Staff to the Southwestern Company. This work has developed many things of importance. Some of these matters on which the General Staff has advised the Southwestern Company are cited below:

Advised regarding general type and use of coils, method of installation and general practice to be followed in loading open wire

and phantom circuits.

Experts of the Engineering Department of the General Staff have furnished a great deal of specific advice and information with regard to the loading of trunk cables in the larger cities. This advice cov-

ered every phase of the problem, such as specific coils to be used, proper spacing of coils, size of manholes, size of loading pots, methods and material to be used in installation, etc.

Furnished complete information with regard to the use, installation, maintenance, testing and termination of duplex cable; also as to the size and combinations of conductors and plans for its future use. Advised regarding trouble from lighting on high dielectric cables

entering through iron pipe.

Furnished detailed advice on the subject of inductive interference from power circuits and the design of transposition schemes to eliminate same. Several instruments for use in determining the amount of interference, its components, etc., have been designed and have been purchased by the Southwestern Company.

Furnished the Southwestern Company 6,000 to 8,000 transmitters, especially designed for use on long subscribers' lines where good

transmission is difficult to obtain.

Total

No. 162.

"Partial List of Letters Received from the American Telephone & Telegraph Company Bearing on Special Services Rendered to the Southwestern Telegraph & Telephone Company."

This exhibit consists of 32 pages of typewritten matter. It is a list of various letters selected from the files of the Chief Engineer of the Southwestern Company, showing that a large volume of correspondence is continually carried on between the engineers of the American Company and the engineers of the South-1788 western Company relating to problems in the territory of the Southwestern Company. There are a total of 465 letters mentioned in this exhibit under the following classifications:

Pages No. Total No. of letters. Subject. 13 1 Fundamental Plans ... Buildings & Central Office equipment. . . . 124 2-10 40 11 - 13Substation equipment 97 14-19 Outside Plant Matters 50 Protection of Life and Property..... 20-23 24, 25 33 Traffic Engineering & Operating Methods. 26-32 108 Transmission 32 465

Some of the letters selected from this exhibit are as follows:

Subject-matter.	Comments on Houston Fundamental	Use of Moisture-proof Switch-board Cable at Preston Office, Houston.	Moisture-proof Switchboard Plug Shells, Houston.	Designation, Maintenance, delivery & installation of a new peg count, Register key.	Regarding delivery of Material for Re- peater sets at Houston.	Commenting on Plans for a new office building at Houston.		Plan for New Central office Building at Houston.	R	Use of #20 Instrument Wire, Loud-speaking pay station equipment for Houston.	Investigating trouble caused by cable rings cutting the sheath of aerial cables.	Advising of Proposed visit of Mr. J. W. Campbell to the Southwestern Territory to discuss Development of Standard Plant Engineering Records.
To officials of S. W. T. & T. Co.	Chief Engineer	"	99	Act. Chief Engr.	Transmission and Protection Engr.	Chief Engineer		Chief Engineer	General Supt. Traffic	Chief Engineer Act. Chief Engr.	Act. Chief Engr.	מ מ
From officials of A. T. & T. Co.	Engineer of Traffic	Engineer of Plant	22 22 23	Equipment Engineer	W. V. Reid	Engineer of Plant		Engineer of Plant	R. E. Walker	Engineer of Plant Act. Chief Engr.	Engineer of Plant	n n
Date.	Jan. 22, 1915	Apr. 15, 1915	Jan. 11, 1915	Feb. 1, 1917	Apr. 24, 1917	Mar. 6, 1917	1789	Jan. 15, 1918	July 2, 1919	June 26, 1917 July 29, 1918	June 8, 1917	Nov. 28, 1917

804	•		C	TTY	OF HOU	1810	N VO.	D. W.	DELL	TEL.	co.		
Subject-matter.	Contemplated Visit of representative from A. T. & T. Co., to discuss New Specifications covering House Cable.	Development of Pole Hole Boring machine.	Discussing National Electrical Safety Code.	Fire protection and Prevention in connection with Telephone Buildings.	Describing a Door-Cheek with a fusible link, to be used in connection with Fire protection devices, in Telephone Build-	ings. The one of Tree onerds for Protection of	Aerial Cables. New Building for Harrisburg Office at	Houston. Relief and Hours for Supervisors at Houston.	Transmission Studies—Texas Cities. Defective Loading coils in Texas.	Ronastars of Monston Tavas	Visit of representative from A. T. & T.	Advice relative to transmission measuring	Information as to use of 22 and 24 Gauge Cable in Exchange Areas.
To officials of S. W. T. & T. Co.	Chief Engineer	27 27	"	2)	3	"	27	n n	n n	Chief Prainces	Transmission & Protection Engr.	Chief Engineer	99
From officials of A. T. & T. Co.	J. N. Kirk	Outside Plant Eng.	Chief Engineer	3	Act. Chief Engr.	" " "	Chief Engineer	Engineer of Traffic	Engineer of Plant	Francos of Plant	W. H. Harden	Chief Engineer	"
Date.	Jan. 10, 1919	Sept. 27, 1919.	ov. 16, 1916.	May 15, 1918	Sept. 27, 1918	0101 71 22	Mar. 6, 1917	Sept. 17, 1919	May 12, 1915 Nov. 6, 1915	1790	Feb. 4, 1919	Арг. 11, 1919	Oct. 24, 1919
	J	V.	Z	2	Q	-	2	20	ZZ	-	4 12	A	0

1791

PLAINTIFF'S EXHIBIT No. 163.

The S. W. T. & T. Co., Houston Exchange.

Houston Industries.

Study of Returns Earned.

C. A. Gates, Witness.

This exhibit is based on the 1915 report of the Bureau of the Census and shows the net per cent return earned by the various

industries in Houston.

The exhibit shows that the per cent return varies all the way from 8.08 per cent earned by the planing-mill products industry, to 157.28% earned by the newspaper and periodical publishing business. The average return to all the industries in Houston is shown to be 15.36 per cent.

The exhibit shows also the net earnings of the National Banks in the principal cities of Texas, the banks in Houston earning 9% and

the banks as a whole in Texas earning 14.41%.

1792 Mr. J. D. Frank: If your Honor please, there are two or three little matters that we want to straighten out this morning, called for by pleadings, First: I would like to offer in evidence Sections 990 and 991 of the Revised Code of Ordinances of the City of Houston. I will just read those and the Reporter can copy them in the records later on.

Sections 990 reads os follows:

"Sec. 990. Rates of charges.—Any person firm, corporation or receiver operating or owning telephone lines and exchanges within the City of Houston, Harris County, Texas, engaged in the business of furnishing telephone connections and services to the citizens of said City of Houston, shall charge not exceeding the following rates, to wit:

"Rate One: Telephone lines and exchanges having Three Thousand (3,000) or less paying subscribers within the limits of the City of Houston shall have the right to charge, for business or office connection, Three Dollars, (\$3.00) per month, for residence, Two Dollars (\$2.00) per month.

"Party Lines: Business or office, Two Dollars (\$2.00) per month: Residence, One Dollar (\$1.00) per month.

"Rate Two: Telephone lines and exchanges having in excess of Three Thousand (3,000) paying subscribers within the limits of the City of Houston shall have the right to charge, for business or office connections, Five Dollars (\$5.00) per month: For residence, Two Dollars (\$2.00) per month."

"Party Lines: Business or office, Three Dollars (\$3.00) per month: For residences, One & 50/100 Dollars (\$1.50) per month.

Provided that the rates above fixed are fixed for a reasonably efficient service, and in the event the service is not reasonably efficient, the subscriber or customer can satisfy his bill and the requirements of this section by paying or tendering to the person, firm, corporation or receiver operating or owning the telephone lines such proportion of the rate fixed by law for the service as the service actually furnished bears to a reasonably efficient service.

"In the event the service is not reasonably efficient, and the customer has paid in advance for the service at the rate fixed by this section, he can deduct an amount proportionate to the deficiency in the service from the rate for the next month, and the person, firm, corporation or receiver operating or owning the telephone lines shall be bound in all cases to receive said sum of money and continue to

furnish the service: provided that the amount of money paid by the customer is proportionate to the service rendered.

(Nov. 22, 1909, Ord. Bk. 3, p. 541, Sec 1.)"

Mr. J. D. Frank: Section 991 is as follows:

"Sec. 991. Penalty.—Any person, firm corporation or receiver, operating or owning telephone lines or exchanges within the limits of the City of Houston, Harris County, Texas, engaged in the business of furnishing telephonic connections and service to the Citizens of said City of Houston, or any agent, manager or superintendent thereof, who shall charge any greater rates or tolls for the services herein mentioned, than those hereinbefore fixed, or who shall refuse to continue to furnish the service because the customer fails to pay a greater amount for the telephone service than is fixed by Section 990, or than is payable under the next preceeding section for the character of service rendered in the particular case, shall be deemed guilty of a misdemeanor, and upon conviction shall be fined in any sum not less than Twenty-five dollars (\$25.00) and not exceeding One Hundred Dollars (\$100.00) for each offense, and in case of failure or refusal to further furnish telephone service to the customer or subscriber, it shall be a separate offense for each day that there is failure or refusal to furnish the service. (Id.)"

Mr. J. D. Frank: Those are the ordinances which we are attempting to enjoin.

1795 Mr. A. E. Scott, a witness for the complainant, was sworn and testified as follows:

Cross-examination.

(Questions by Mr. Howard:)

I do not set up the per cent value of the property, the engineer handles that part of it. That would not appear in the books. It is

my understanding that this item of \$318,367.54 was determined by the President and Auditor of the Company at that time, 1901. Just what their basis was for making this division on the books I don't know. I do not believe that it was an arbitrary amount, but so far as I am concerned it was given to me as an arbitrary amount, in 1901. The President may have been correct in naming that amount. That was undertaken to be made by dividing up the cost of all the exchanges prior to that time. I have not been able to find out exactly how they did it.

We start off with that value of \$318,356.54, and in 1902 we have a value of \$388,237.19. We arrived at that in this manner,—as the additions would be made at Houston they would be charged to Houston, all the gross additions. As the plant was taken down or

removed the plant account would be credited with the amount, 1796 and this \$388,000.00, the difference between it and the \$318,000.00 represents the additions to Houston during the prior year 1902. That represents gross additions during the year.

"Q. In speaking of additions, are you distinguishing between

additions and replacements and repairs?"

"A. Replacements are treated as "in and outs" as we describe them. That is, if you have a large property to replace, you will charge into your plant account the total cost of the new property which is put in, and remove from your plant account—"

"Q. I am trying not to theorize."

"A. That isn't theory."

"Q. Not to get into an argument. Take for the year 1902, do I understand you to say there were some repairs and replacements made, and also some extensions to the plant, do your books show that?"

"A. Yes, sir. The repairs would not be involved in this statement at all. That would be charged to maintenance. That is not included in this figure at all. Repair is a maintenance, or expense item and would be charged to expense and that is the last of it."

I have that item of \$70,000.00 divided showing so much added to each class of plant, so much central office, so much pole, so much wire and so on. I have no way of showing whether that \$70,-

new one, or whether it was used in making extensions, new extensions to the plant. I couldn't give that kind of information accurately prior to 1915. In 1914 we installed what we call "Departmental or Administrative Accounting." From that time on we could give that information very well. For instance, if along here on Fannin Street there were fifteen or twenty poles taken down and replaced with new poles that would be charged upon the books to the "Pole account." We would call that a gross addition. That might be either a new extension or a replacement, and our records would not indicate that. It would require an analysis to go back of that and find out whether we took down 15 poles at that place and put up new ones, or whether we actually extended—

"Q. (Interrupting.) If you took down 10 or 15 poles on Fannin and replaced them with new ones, so far as your books would show you couldn't tell whether that was a replacement, or whether those poles were used in extending the plant out to Brunner, or somewhere out that way?"

"A. Not in the early years."

Prior to 1914 we were not keeping the kind of records we now keep, by exchanges, and would not be able to get that information like we can now.

"Q. Then in this set up of \$4,810,000.00 that total that 1798 you arrive at, after having started in 1901 with only \$318,000.00 your books will not reflect whether or not, or to what extent, that money has been accumulating there, added to this account was used in replacing poles or equipment, and to what extent it was used in putting in additions to the plant which was intended to serve more people and enlarge the plant?"

"A. Well, the fact that the plant is increasing—the total cost is increasing from year to year would be a certain indication——"

"Q. We are assuming-

"A. I would not be able to give you how much each year."

"Q. What I want to get at is this, whether in this set up that you set up as the book value of this plant, whether from those books, not from this statement, whether or not it is possible to determine whether or not all the money that has been spent is additions to plant which enlarge the service, or whether some part of it has been used in replacing parts of the plant that have worn out?"

"A. If the property which was added to replace property taken down, was of greater cost than that which was taken down, there would be no amount included in these figures for that replacement. This would only take up additional cost due to changes in price, or a better class of plant put up to replace plant taken down.

1799 If we had a thirty foot pole at a corner and took that down,—suppose it was valued at \$15.00, and we replaced it with a twenty foot pole worth \$10.00, that would be reflected in this account as a reduction in our plant account \$5.00."

"Q. Then, in other words, you haven't charged into this anything

used in replacements?"

"A. Nothing for replacements, unless the property had a greater

cost than the property which it replaced."

"Q. Then you would carry into this set up only the additional cost?"

"A. That is right."

Redirect examination.

(Questions by Mr. J. D. Frank:)

I testified that the interest on this \$943,000.00 bonded indebtedness was paid out of operating expense. I do not mean that it is paid out of operating expenses in Houston each year, because you

can't pay interest out of operating expenses if your operating expenses are greater than your income, and that is the condition at Houston, where we are not making any return. Our operating expenses are greater than the gross income we have here. What I

meant was that after we had paid all of the operating ex-1800 penses for the State as a whole, we took out of what was left enough money to pay the interest on this bonded indebtedness. And that interest payment was not made out of the operating

revenue derived from the Houston Exchange.

Counsel has asked me about the reserve for depreciation in former years. If we had laid up an adequate reserve for depreciation we would not have been able to pay the dividende which have been paid, even though those dividends were only 2% or 2½%, whatever it was for the lowest year. If we had laid up an adequate reserve for depreciation we wouldn't have had that much dividend. The Company in the past has not been putting aside an adequate reserve for depreciation, it has not been able to lay aside any reserve in Houston for a number of years.

The Southwestern Telegraph & Telephone Company has been paying 6% interest on these notes issued by them, but the Southwestern could not go out into the open market and secure this money at 6%. It is able to borrow at 6% due to its connection with the American Telephone & Telegraph Company, and it borrows from them. With the exception of the \$943,000.00 bonded debt all the indebtedness of this company is owed to the American Telephone & Telephone

graph Company.

The reason the Southwestern Telegraph & Telephone Company can borrow money from the American Telephone & Tele1801 graph Company at 6% when it cannot go and get this money

in the open market from anyone else at that rate is because the Southwestern Telegraph & Telephone Company is simply one of many companies making up the Bell System The Bell system operated throughout the United States borrows from fifty to a hundred million dollars a year. It can probably do a better financing job than what a local company could do, and is able to get money at a per cent which the local company could not do. However, that does not enter into the proposition so very much as under the agreement that the Southwestern Company operates under the American Telephone & Telegraph Company has agreed to finance the local company, and that is why they are able to get the 6% money, even though they are not able to go out in the open market and borrow it. This company issues its notes payable to the American Telephone & Telegraph Company. It has done it in various ways. In some cases it has borrowed it by notes payable to the American Telephone & Telegraph Company, and in other cases by other means. The American Telephone & Telegraph Company does not discount the notes which have been given by the Southwestern Company to them. None of the notes have been discounted. They have gotten dollar for dollar on the face value of the notes. There is a contract existing between the Southwestern Telegraph & Telephone Company and

this parent company by which the parent company is to finance this company which operates this exchange in Houston. The parent company does not require any security, it has no security

other than the fact that they own the stock of the company.

Just simply notes which are signed by the officials of the
Southwestern Telegraph & Telephone Company.

In my position as statistician I have access to the books of the Company showing revenues and expenses. I have prepared an exhibit showing a summary of the revenues and expenses in connection with the operation of the Houston Exchange for the years 1915 to 1919 inclusive.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 42.

Thereupon the document was received in evidence and marked Plaintiff's Exhibit No. 42, and is as follows:

(Continued.)

(See next page for Exhibit No. 42.)

PLAINTIFF'S EXHIBIT NO. 42.

1804

A. E. Scott, Witness. The Southwestern Telegraph & Telephone Company. Houston, Texas.

	Houston, Texas	lexas.			months	4 months
Summari	Summary of Revenues and Expenses	es and Exp	enses.		Aug. 31, 19	Dec. 31, '19
Revenues:	Year 1916.	Year 1917.	Year 1918.	Year 1919.	basis).	basis).
Exchange Rev	\$615,033	\$664,969	\$700.439	\$880,439	\$961,650	\$776,652
Toll Revenue	70,880	82,818	94,528	121,302	119,870	129,008
Miscel, Rev.	13,165	19,263	21,984	22,472	21,240	24,598
Total Revenues	820,669	767,050	816,951	1,024,213	1,102,760	930,258
Expenses:						
Maintenance Exp.	82,002	96,827	99,362	129,956	116,464	156,174
Traffic Expenses	214,426	258,984	329,440	418,005	388,129	490,037
Commercial Exp.	65,821	65,340	69,867	84,075	82,438	87,959
General Exp.	53,531	39,004	51,527	48,641	47,372	54,072
Rights Privileges etc.	29,944	32,677	34,414	43,528	47,139	39,108
Uncollectibles	9,750	9,342	12,724	15,084	15,964	14.196
Тахев	73,564	87,607	103,810	123,462	118,466	134,674
Rent Deductions	3,084	2,818	3,798	3,562	3,412	3,842
Total Expenses	542,122	592,599	704,942	866,313	819,374	980,062
Balance Net Income before deducting De-	040		000 011	000	000 000	10000
preciation	156,956 293,718	306,732	313,800	359,999	283,386 359,999	49,804* 359,999
Balance Net Loss	136,762*	132,281*	201,791*	*660,002	76,613*	409,803

The total revenues for the year 1916 were \$699,078.00.

The total expenses were, not including depreciation, \$542,122.00. By the term "not including depreciation," I mean the annual reserve for depreciation. Deducting the expenses from the revenues, we get a balance of net income for depreciation and return of \$156,956.00; deducting depreciation of \$293,718.00, we have a balance, net loss of \$136,762.00 for the year 1916. Now, with reference to the amount of depreciation I get that figure thus: The engineers gave me an estimate of the reproduction costs now of the property for the year 1916, and gave me an actuated rate of depreciation of 6.3 per cent; applying the 6.3 per cent to the estimate of reproduction less depreciation \$4,662,190.00 I get this depreciation figure, \$293,718.00. That is for the year 1916.

In 1917 our total revenues were \$767,050.00. That is an increase of about \$68,000.00. Total expenses for the year \$592,599.00, which is an increase of about \$50,000.00. Deducting the expenses from the revenues, we get a balance net income for depreciation and reserve of \$174,451.00. Deducting depreciation, the amount of \$306,732.00, we have a balance, net loss for the year 1917, of \$132,281.00. That depreciation figure for 1917 was on the basis of 6.5 plus per cent of \$4,694,000.00. That was also fur-

nished me by the engineers.

In the year 1918, the total revenues were \$816,951.00, and that is an increase of about \$117,000.00 over 1916. The total expenses were \$704,942.00, and that is an increase of about \$162,000.00 in expenses, over 1916. Deducting the expense were the property of the expense of t

penses from the revenue, we have a balance net income before deducting the depreciation of \$112,000.00. That is about 5% of the estimate of reproduction cost new, the depreciation \$313,800.00. That is based on the rate 6.533 per cent on the valuation of reproduc-

tion by the engineers of \$803,309.00.

The year 1919, the total revenues were \$1,024,213.00. During the year 1919 we had some rates higher than at other times, we had from Februray 1st to August 31st, we had the rates put in by the postmaster General; I have taken those increased rates and reve-Total expenses for the year were \$866,313 nues in those figures. leaving a balance before deducting depreciation of \$157,900. is about 21% of the reproduction cost new. Depreciation was \$359. 999.00; that is a figure determined by Mr. Hoag, he has an exhibit, I think, showing that, it is based on a rate of 6.334 per cent. leaves a balance, net loss for the year 1919, of \$202,099.00, that is, after I have set aside the proper amount of reserve for depreciation. During the seven months ending August 31st, they had the rates in effect which were put in by the postmaster general, that is, the \$3 and \$7.50 rate, I think those are the rates. That is the \$7.50 flat rate for business telephones and 3 for residence telephones, and then in addition to that we had measured service.

I have taken the actual results from those seven months of operation with the increased rates, and have worked that out on the annual basis. The rates which are in effect at the present time are \$5.00 for business telephones and \$2.00 for residence tele-

phones. These computations which I am about to take up now are based on the higher rates. This is the total revenue for the seven months on annual basis, that is, \$1,102,760.00. The way I got that was to take the actual revenues for seven months, divide by seven and multiply by twelve. The total expenses for those seven months on an annual basis, were \$819,374,00, and deducting expenses from the revenues, we have a balance, net income, for depreciation and return of \$283,386,00. That is about 5% of the estimate of reproduction cost new, less depreciation. We only have 5% there for depreciation and return. Deducting depreciation, the same amount we used in the previous column was \$359,999.00, and we have a balance net loss for the year, or for seven months on annual basis, of \$76,613.00. Subsequent to these seven months by some legal proceeding we had to go back to our old rate, but I made a study of what our revenues and expenses were during the four months at the lower rate and what the revenues and expenses actually were during the four months. That is, during the last four months of 1919, we were operating under rates described by City Ordinance, \$5.00 for business telephones and \$2.00 for residence telephones.

have made a computation of what the results would be on 1808 annual basis by taking the actual, effect of the last four months of 1919. I want to call your attention to the fact that the total exchange revenues were about 25% greater than the exchange revenue for 1916, I am making comparison there of the difference between what we are getting now and what we did get during those four months, then what we actually got in 1916. There was quite a considerable increase in revenue, and I want to show that the big part of it is not from our exchange revenue, but from toll revenue. The next item is toll revenue, \$129,008.00; that is an increase of about 80% from our tolls of 1916. Miscellaneous revenues, amounting to \$24.598.00; that compares with 1916, that is about 90% greater than 1916; so you will see that the big increase in revenue is not in exchange revenue, but in toll and miscellaneous, the percentage—the total revenues for the four months ending December 31st, are \$930,258.00 which is an increase of about 33%, from 1916. Maintenance expense on these last four months of 1919 was \$156,174.00. Now, I don't think I need to read all of these, but traffic expense I call particular attention to, was \$490,-037.00, that is an increase of 130% over what we had in 1916. Commercial expenses have increased about 33%; and our total expenses for these four months were \$980,062.00; that is an increase in expenses over 1916 of about 80%, as compared with an increase

in total revenue of 33%—shows where our money has gone. Deducting the expenses from the revenues, instead of having a balance income for depreciation and return or for anything else, we have a loss of \$49,804.00. The operating expenses exceeded the revenues by \$49,804.00, before we made any allowance for depreciation. Then, if we had deducted our annual reserve for depreciation, or set aside the annual reserve for depreciation that should have been set aside the result would have been that we would have had a balance, net loss, \$409,803,00,

1810 Mr. A. E. Scott, who, having been previously sworn, was recalled by the complainant and testified as follows:

Direct examination.

(Questions by Mr. J. D. Frank:)

Exhibit No. 42 which was put in in the eearly part of this case is a summary of the revenues and expenses for the years 1916, '17, '18 and '19, and for two periods in 1919, the seven months when the high rates were in effect, and the four months after the rates were reduced. Mr. Lyndon's Exhibit No. 7 purports to be a revenue and expense statement for the year 1919. I have prepared a comparison of my exhibit No. 42 and Mr. Lyndon's exhibit No. 7.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 171.

(The statement was thereupon received in evidence, marked: "Plaintiff's Exhibit No. 171, witness A. E. Scott," which reads as follows:

(Here follows Plaintiff's Exhibit No. 171, marked page 1811.)

·Comparison of Scot

	Scott Exhibit \$42.	
Exchange Service Revenues	880,439	
Toll Service Revenues	121,302	
Misc. Oper. Revenues	22,472	
Total Revenues	1,024,212	
Use of Property Rts., etc	49,828	
Maintenance Expenses	129,956	
Traffic Expenses	416,005	
Commercial Expenses	84,076	
General Expenses	48,641	
Uncollectibles	16,004	
	123,451	
Other Deductions	3,561	
Total Expense	866,312	
Net Operating Revenues	157,901	
Before deduct. deprecn	360,000	
Balance Net Income	303,099†	
Excess Revenue during 7 Mo	115,955	
Balance Net Income.	312,054†	
Palance Met Income	012,004	

^{*}Includes switching charges in amount of \$10,762.77 and \$281.46 A. T. & T. Co. †Red in copy.

PLAINTIFF'S EXHIBIT #171.

A. E. Scott.

The Southwestern Tel. & Tel. Co.

Houston Exchange.

parison of Scott Exhibit No. 42 and Lyndon Exhibit No. 7, Covering Revenues and Expenses.

	L	rndon I	Ex. No. 7.	Lyndon F	Ex. No. 7.	Lyndon 1	Ex. No. 7.	Lyndon	Ex. No. 7.	Lyndon	Ex. No. 7.
Scott Exhibit #42.	Basi of 100% t	is	Increase over Ex. 42.	Basis of 25% tolls.	Increase over Ex. 42.	Basis of 35% tolls.	Increase over Ex. 42.	Basis of 50% tolls.	Increase over Ex. 42.	Basis of 75% tolls.	Increase over Ex. 42
880,439 121,302 22,472	880,4 442,1 22,4	139 156	320,654	880,439 121,302* 22,472		880,439 166,405* 22,472	44,103	880,439 281,565* 22,472	110,262	$880,\!439 \\ 341,\!622 \\ 22,\!472$	320,520
1,024,212	1,345,5		320,854	1,024,213		1,988,216	44,103	1,134,475	110,262	1,264,733	320,520
	10.0	000	30,628†	12,900	30,628†	18,900	30,628†	18,900	30,628†	12,900	30,628
49,828		900		121,246	8,710	128,074	6,682	125,616	4,140†	130,866	430
129,956	129,			386,695	31,310	390,069	27,126	397,121	20,874	407,567	10,428
416,005	418,			73,990	10,746	74,768	9,312	76,911	7,165†	80,492	2,934
84,076		076		14,886	33,756	19,686	29,266	26,137	22,504†	37,388	11,259
48,641		641		15,004		15,004		15,004		15,084	
16,004		004	00 1001		23,496†	99,965	23,496†	99,965	23,496†	99,965	23,496
$123,451 \\ 3,561$		$\begin{array}{c} 965 \\ 561 \end{array}$	23,496†	$99,965 \\ 3,561$	20,4001	3,561		3,561		3,561	
866,312	812,		54,134†	727,667	188,645†	789,003	126,710+	757,505	108,207	787,343	78,969
	700	070	974 976	296,546	136,645	322,714	170,012	376,970	219,069	457,390	299,429
157,901	522,		374,976	135,320	223,680†	136,320	232,680+	136,320	233,620+	136,320	233,680
360,000	136,		223,680†		263,323	193,394	394,493	240,650	442,749	321,070	523,169
303,099†	396,		598,668	160,886	200,020	115,955	304,400	115,955		115,955	
115,955	115,		000 070	115,955	202 200	76,429	394,498	124,695	442,749	206,115	523,169
312,054†	280,	604	398,658	44,371	363,326	10,420	004,400	1=1,000	,		

.46 A. T. & T. Co. Commissions in addition to the percentage of gross tolls.



In Mr. Lyndon's Exhibit No. 7 he set up five different 1812 propositions. The first proposition is to credit to the exchange the entire originating toll business at the exchange, and to deduct from our 41/2% the amount, and to eliminate from our taxes the income tax, and also to use for depreciation the amount of depreciation which he showed in the last column of Page 1 of his Exhibit No. 2. In his other proposition we are to take a per cent of the toll and to allow a percentage of the so-called, what he called, "allocated charges" to the exchange. He set up four different propositions on the basis of 95% of the tolls; 35% of the tolls; 50% of the tolls and 75%. The effect of his computation in this first column here on the basis of 100% of the tolls is to include the entire originating toll business and credit it to the exchange and not allow to the exchange any of the expenses incident,-additional expenses incident to furnishing that service. In my Exhibit No. 42, in determining the expenses chargeable to Houston, I only considered expenses in connection with the operations at Houston, and there are many toll expenses incurred all over the State which are strictly applicable to them, and no part of such expenses have been included in my expense statement. Mr. Lyndon has not allocated to Houston this toll expense outside of Houston since he set up his 100% of the tolls for Houston; he has included no additional expense while adding

all of the tolls to the credit of the exchange. Mr. Lyndon 1813 has added to the revenue for the local exchange \$320,854.00.

That is under the second item over to the left hand side there, toll service revenue. My Exhibit showed \$121,302.00 to the Houston Exchange and Mr. Lyndon put it in as \$442,156.00, by which he adds to the revenue for the local exchange \$320,854.00 and increases the total revenue for Houston by that amount.

The next item of charge is the amount allowed for the use of property rights, privileges, and so on. That is the amount we pay to the American Telephone & Telegraph Company under the license contract, the so-called 41/2% payment. I think Mr. Lyndon has explained in detail how he arrived at his amount of \$12,900.00. In other words, my Exhibit No. 42 showed a charge of \$43,528.00 for which he substituted \$12,900.00. That figure in red, \$30,628.00 represents the difference. That's the amount of expense which is not allowed in connection with the 41/2 % payment. The next item in that column is \$23,496.00. That is the income tax which I had allocated to the exchange. It isn't exactly the amount which I have used, but it is the amount which Mr. Lyndon-why, it is the difference between the amount which Mr. Lyndon allows as Taxes and the total amount which I have charged to the exchange as taxes.

That figure of \$54,124.00 is the total of the two red figures above, the \$30,628.00 and the \$23,496.00. Adding this \$54,124.00, because

that is a reduction in the expense, to the \$320,854.00 the in-1814 crease in revenue, we get a result of \$374,978.00 which Mr. Lyndon has added to the revenue.

The next red figure is \$223,680.00 and is the difference between the amount of depreciation which is used in my original expense statement, which has been determined by the engineers, and the amount which Mr. Lyndon said was proper on connection with his Exhibit No. 2. So, he cuts out \$223,680.00 of the annual reserve for

depreciation as found by Mr. Hoag.

Mr. Lyndon, in his set up, has not allocated any part of the toll property out of Houston: in using my book figures he would have included the toll central office equipment at Houston, but no other toll property, because no other toll property is allocated to the exchange or charged to the exchange on the books. One very large item of expense on toll property outside of Houston is toll maintenance; it amounts to \$211,109.00 for the year 1919. Mr. Lyndon has not allocated to Houston any portion of that expense. He apparently is under the impression that we do charge to the exchange maintenance, toll maintenance outside of the exchange, but we do not do that.

While Mr. Kelsey wqs on the stand he stated that the toll maintenance in the toll district here was charged to Houston and said that very often they had local linemen and repair men to

run out here 40 or 50 miles to repair toll lines, and their salaries and expenses charged up to the local exchange. That is not a fact; Mr. Kelsey apparently does not understand how we keep our books. If we have a man working here in Houston and he is sent out on a job of repairing toll lines, his salary and his expenses are not charged to the local exchange. The maintenance in connection with the toll lines is allocated to the toll district, or the toll line, or to the State as a whole, and no part is at any time charged to the exchange. I have records where a man has been sent out from Houston showing how his time was charged. I have some

copies of daily time reports.

In order to explain the daily time report I will have to tell you "T" in our business designates what our technical methods are. toll, or means repairs; and "T-R" would mean toll repairs; and "R" without the "T" would mean that it is exchange repairs. Now, I have a time report here which shows three men,-that's a gang; one of the men is E. Carroll. On the 13th of April of 1920, he shows that he worked 21/2 hours on 13-R work; that's repairs on lines. That was charged to Houston. He is a Houston man. He spent 21/2 hours which was charged to 18-R, that's repairs of substation equipment, and he spent three hours on a custom work order, taking out some telephones in Houston, which was also charged to Houston. On April 15th they had some trouble on a toll line and this man Carroll was sent out on the job and spent

his whole day soldering, I think, joints, starting in at Aldine and working up to 1 mile south of Westfield, toll circuit 390, That time was charged to Houston Division, Houston District. 13-T-R, and no part of that is chargeable to Houston. same plan is followed in connection with the toll maintenance expense; no part of any toll maintenance in connection with the toll lines being charged to an exchange. The toll, or the maintenance in connection with the Central Office equipment is charged to the exchange, and that is because of the fact that the work is so intimately connected with the work on the exchange switch board that it would be difficult to separate it, and we have made allowance for that in allowing the 25% of the toll business to the exchange. That would probably amount to about \$2,000.00 at Houston a year.

"Q. Now, come back to this exhibit, Mr. Scott, and taking up the first column, where Mr. Lyndon has allocated to Houston 100% of the tolls, and has cut down the payments under the license contract to the amount of \$30,628.00, and has eliminated the income taxes of \$23,495.00 and has cut down the annual reserve for depreciation in a sum amounting to \$223,680.00. Then how much do you find that it would be necessary to increase the revenue here in order to earn a return of 8% on Mr. Hoag's set up?"

"A. It would require an additional amount of \$240,-

383.00.

That is even including 100% of the tolls. The amount which Mr. Lyndon has arrived at after making the deduction of revenues, and the deductions from expenses, leaves a net revenue for the year of \$280,604.00, that is, just about 4% on Mr. Hoag's reproduction cost new, less depreciation value. That is without allocating any portion of the toll investment in Houston and putting in 100% of the toll

receipts.

be.

1817

We have other expenses outside of Houston with reference to the toll properties other than maintenance. In every department we have toll expense. I might take as one example, it's not a department exactly, but take the item of taxes; in determining the amount of the gross receipts tax to be charged to Houston I figured 1½% on the amount of revenue which I had credited to the exchange, and that left—Mr. Lyndon has added \$320,854.00 to the revenue and the tax on that would be about \$5,000.00. That has not been included by Mr. Lyndon, and in our method of accounting would be considered as a tax in connection with the toll property. That is the gross receipts tax which we have to pay to the State, we have to pay to the State a gross receipt tax. He has made no allocation of that item to Houston; the amount which I have determined was based upon the revenue which I had credited to the exchange, and the

balance of the tax was naturally in connection with the toll 1818 property.

We have to pay ad valorem taxes on toll property but Mr. Lyndon has not made any allocation to Houston for that, and when I made my set up I did not include any part of it. I will explain that by referring to my seven months' set up; take Harris County as an example,—the taxes, ad valorem taxes, for the year 1919 were \$22,114.00, and only 92%,—92.84% of the property in the State, or rather in Harris County, is in Houston, and therefore I only took 93% of the taxes paid in Harris County and charged it to Houston. That same thing prevails throughout the State of Texas and on toll property probably runs somewhere between one and two hundred thousand dollars. I haven't figured out just what it would

"Q. Now, take up Mr. Lyndon's exhibit No. 7, Mr. Scott, and tell us what he has excluded from the local exchange revenue?"

"A. You mean in connection with his later calculations?"

"Q. Yes."

"A. Mr. Lyndon, on Page 3, shows that he has considered as allocated items, or general expense items, \$119,357.00 which he has deducted from our expenses."

Mr. Howard: There is no comparison of that on this exhibit, is there, Mr. Scott,—on this exhibit that you just introduced in evidence?

1819 Mr. Scott: Yes, I show the application of it.

Mr. J. D. Frank: We will take that up further and we

will explain just what he has excluded.

Mr. Scott: He shows on page 2 of his exhibit the Direct Maintenance Account, excluding account 601; on Traffic Expenses, excluding Account, 621 and account 631; Commercial expenses, excluding accounts 640-10 and 642; on General Expense he has excluded, with the exception of accounts 668 and 674—

"Q. (Interrupting.) Now, take up those accounts, Mr. Scott, and tell us what they are, and just what it is that he has excluded here in Houston,—what part of the work that is being done that he has

excluded."

"A. The first item which he has excluded is Account 601, Supervision of maintenance,—that amounts to \$18,281.00. That is the amount which has been charged to Houston as supervision of Maintenance, being an allocation apportionment of the salaries and expenses of the Division, District and General Plant, whereas that is a Division Plant and Superintendence of the General Plant, Superintendence, and so forth, that has been allocated to Houston and all strictly in accordance with the Inter-State Commerce Commission's requirements."

The total expense incurred at Houston amounts to more than the amount which we have allocated to Houston. Of course, the expense at Houston is not all applicable to maintenance. The General Plant Superintendent and the Division Plant Superintendent and their forces are engaged not only on maintenance work, but also on construction work, and we divide between construction and maintenance this supervision item. The total payment at Houston was \$27,396.00, and as I say, I only allocated to Houston \$18,281.00. The amount allocated to the exchange is based directly upon the amount of maintenance labor which has been spent at the exchange. The local maintenance supervision is charged directly to the work as the work is done.

The next item which Mr. Lyndon has excluded is Account 621. Account 621 is Traffic Superintendence. The total amount is \$26,329.00. Traffic Superintendence covers the salaries and expenses of the division traffic superintendent and his forces, and the salaries and expenses of the General Traffic Superintendent. The amount of local supervision spent locally at Houston in connection

with local work was \$8,032.00. That is excluded here by Mr. Lyndon but he has later included part of the figures by taking 25% of them. The amount, total expenses and salaries of the Southeast-ern Division, that is, Mr. Kellogg's forces, that is, Division and

Traffic Superintendence, was \$13,785.00. That also was spent at Houston, but not in connection with the Houston exchange, Houston is the headquarters of the South-eastern Mr. Kellogg and his forces performed services for this local exchange as part of that division. The part of that which I have allocated to Houston was 61.9% or \$8,537.93. I took 61.9% because the amount charged to the exchange is determined by getting the total direct traffic expense in the South-eastern Division and finding what proportion of the total traffic expenses at Houston are to the total for the division and obtain the per cent and applying that

per cent to the total expenditures.

The next item we have is the item of Traffic Superintendence at the General Office, which, for the State, amounts to \$391,975.00. We proportion to Houston 16.4% of that in the same manner as we approxioned the division item. The total charge to Houston is \$26,329.00. Now, Mr. Lyndon proposes in his 25% basis to allow 25% of this Traffic Superintendence. That would give \$6,582.00. The direct expense here at Houston alone was \$8,032.00. So that, he has excluded more than the direct expense which you have here in Houston. On his 50% method he only has allocated \$13,165.00, and don't cover the direct at Houston, plus its share of the Division expense.

The next item which Mr. Lyndon has treated as a general item, or an allocated item is Account 631, Miscellaneous Central Office expenses. He has apparently gotten the wrong idea as to what that is. That is practically all spent at Houston

and is not an allocated item. There is possibly one hundred dollars in there of allocation. There is \$15,415.00 for this item which he has excluded, when that expense, with the exception of about \$100.00, is all incurred right here in Houston. That account covers janitor's service, light, heat, fuel, gas, toilet supplies and all other expenses incident to and in connection with the building,-it is building ex-

The next item is Account 640-10,—General Commeric-al Administration. That amounts to \$10,656.00. The total amount spent at Houston chargeable to this account was \$9,695.00. Part of that was local and chargeable to the exchange, and part of that was in connection with the Division office, this being a Division Office, the same as for the Traffic Department, and the amount of the local charge is \$2,094.00. That is in connection with the operation of the local exchange here. The total expenditures of the Division were \$6,972.00. We allocated to Houston 41.6% or \$2,903.00, and the general company charges were \$48,318.00; we allocated to Houston 11.7%, or \$5,659.00; the total charge to Houston for General Commercial Administration being \$10,657.00. These allocated charges here, in which is included a part of the expense of the General Superintendence, such as the General Plant Superintendence, the General Traffic Superintendence, and General Commercial Superintendence,—those officials all perform

services for the local exchange.

I might call attention to what the effect of taking only part of this expense would be; taking 25% of that would be charged to the exchange,—would be \$2,664.00 out of an expenditure at Houston of over \$9,000.00, and on the 50% basis there would only be \$5,328.00 charged to the Houston exchange, which is just about the amount of local charges, plus their pro rata of the Division expenses here.

The next item is a small item, account 642,—advertising, \$3,669.00. The bulk of that is a direct expenditure at Houston. I mean that the most of that is for advertising right here in Houston, the most of it being payments for Newspapers for ads which we have had here. Mr. Lyndon did not eliminate all of that. He only allows a per cent of it. You see, he has taken this all out in toto, but has put it back when he allows 25% of the total, he has put back 25% of this expense and it is not all eliminated, only part of it, but on that particular item the amount spent at Houston was.\$2,076.90. That was paid to newspapers and was for advertising. On the 25% method the only charge to Houston would be \$917.00, which would leave over a thousand dollars which I don't know what exchange would have to bear. It is not a general charge and could not be

have to bear. It is not a general charge and could not be charged to any other exchange. That money is spent right here in Houston. His 50% method does not allow sufficient

to cover the direct expenditures.

I will next take up the item of General expense. The General expense which I have allocated to Houston, a part being direct expenditures, and part based on prorate is \$48,640.61. That is a total of all the general expenses and includes a number of accounts. It is made up of accounts 662,-675 inclusive. Now, included in that \$48,000.00 are the following direct expenditures at Houston: insurance, \$2,317,00; accident and damages, \$11,60; law expense in connection with this accident and damages, \$71.91; the amount paid to the Telephone inspector, which is \$100.00 a month for 12 months, \$1,200.00. That is an inspector appointed by the City of Houston here and whose salary is paid by the Telephone Company. I have been looking for him since I have been down here and I have never seen him. The payment- in connection with our relief plan were \$15,139.00 at Houston, and other general expenses, miscellaneous items amounted to \$437.83. That gives the total direct general expenditures at Houston of \$20,177.00. There was allocated to Houston \$28,463.27. Included in that, of course, is the expense of the general Manager and the General officials of the Company.

I might call attention to the relief department item. The total payments at Houston were \$16,139.00 but we do not treat the relief department as a direct expense item. We consider that the fund is a general fund that any exchanges can draw on, and if in one year an exchange has a great deal of business, a number of accidents, and perhaps a death or two, if they were held to their exact quota we couldn't make the payment in accordance

with the plant, and therefore we consider and treat it as a general fund from which all exchanges can draw. One exchange may not get its full share, may not draw as much in proportion this year as it does the year before, and one exchange may draw more in proportion than the other. Mr. Lyndon has asked for the direct payments in connection with this plan and I told him that I didn't have it. Since then we have made the study and we have found the actual payments which have been made here at Houston. I did make the statement that I thought that, due to climatic conditions, things I had heard, that our sickness expenses were high here and that probably our plan of allocation was giving Houston the benefit of it. So that instead of charging Houston with its total payments, which we made here, we only charged to Houston \$12,278.00, which gives Houston the benefit,—they get the best of it by \$3,861.00 on the plan of allocation.

I will now take up the second column of this Exhibit No. 171 and explain that. I have explained in some detail the items which Mr. Lyndon considered allocated items and shown what the re-

1826 sults were as regards a comparison with certain percentages of that amount and the actual expenditures at Houston. In this second column I have simply shown in money what the aggregate results of these assumptions were. In other words, assuming that because we allowed only 25% of the tolls, only 25% of certain expenses should be allowed, and reducing the amount of 41/2% payments, and eliminating income taxes, Mr. Lyndon has taken out of our expenses \$138,645.00; that is, without considering the \$223,-680.00 reduction which we made in the amount of depreciation. Taking the total of these two items, made a reduction of \$362,325.00 in expense, or it resulted in increasing our revenues by that same amount. The net result, after making these assumptions, is to show, under Mr. Lyndon's method, that the net income wax \$44,271.00. That is allowing 25% of the tolls and eliminating much of the general expense. Then, in order to earn 8% on Mr. Hoag's reproduction figure, we would need \$476,716.00 more revenue under Mr. Lyndon's set up of the revenues and expenses. The next column is the same as the column I have just explained, except that 35% of the tolls were taken and 35% of this so-called allocated expense. The net result being that Mr. Lyndon decreased the expenses or increased the revenues by \$394,492.00, and his net results under this method are to show income of \$76,439.00. And to have made 8%

on Mr. Hoag's reproduction new, less depreciation, would 1827 require additional revenues of \$444,548,00.

The next column shows the computations, using 50% of the tolls and 50% of the so-called allocated items, and shows an increase in revenues under Mr. Lyndon's method, of \$442,749.00. His net revenue figure being \$124,694.00. We would need \$396,292.00 in revenue in order to get an 8% return upon Mr. Hoag's figure.

The last column is on the basis of taking 75% of the toll and 75% of the allocated expenses, which shows the elimination of \$523,169.00 of expenses and a return of \$205,115.00, and to have

made 8% on Hoag's reproduction valuation would require \$315,872.00.

I determined the amount of working capital in the Company's set up and did that by going to the books of the Company and determining from the books exactly the amount of working capital which we have been using. I used no estimates, except apportionments to the exchanges. The figures were actual figures. This same method of determining the working capital has been used by me in all cases that I presented to any of the Commissions, and was used by Mr. Benzel, my predecessor, in all of his cases, I used this set up in a recent case in the State of Missouri. The decision came out

November 29th, 1919. I figured the working capital in the manner which I set out in Exhibit No. 41, and the commission figured it from some other method. That was in a statewide case for the State of Missouri before the Missouri Public Service Commission. The commission figured it out in a different manner. They had in some previous case, the St. Louis case, determined what they thought was a fair amount of working capital. The difference in the amount of working capital found by the Commission, and the amount found by me was a difference of \$17,000.00, their figure was \$17,000.00 less than mine. The total amount involved was over a million dollars. In other words, in working out the amount of working capital as required for the whole state of Missouri, I used this scheme of setting it up and the commission used some other scheme, and the amount being something over a million dollars, the Commission adopted a figure which was about \$17,-000.00 less than the amount I had determined under my scheme.

This Company has money outstanding on the first of the month. Mr. Lyndon has stated that we collect a great deal of our money inadvance. Exhibit No. 41 shows that for the nine months ending September 30th, 1919, we had outstanding on an average nearly

\$70,000.00 at the end of every month. That is for the Southwestern Telegraph & Telephone Company, for Houston alone.

Something has been said about how the Company carried on its books the physical property which it purchased from the Houston Home Telephone Company. I have an exhibit showing the exact figures it was put on the books at.

Mr. J. D. Frank: We offer that exhibit in evidence, and ask that it be marked as Plaintiff's Exhibit No. 172.

(Thereupon the said exhibit was received in evidence and marked: "Plaintiff's Exhibit No. 172, which reads as follows:

1830

PLAINTIFF'S EXHIBIT #172.

A. E. Scott.

The Southwestern Telegraph and Telephone Company.

Houston, Texas.

Amounts at Which Houston Home Telephone Company's Property Was Placed on Books of the Southwestern Company.

Class of plant.	Amount.
Materials & Supplies	\$26,229.85
Land	51,660.00
Buildings	55,622.77
Central Office Equipment	158,530.21
Station Apparatus	1,860.02
Station Installations	175.48
Private Branch Exchanges	629.79
Booths & Special Fittings	125.67
Exchange Pole Lines	$59,\!118.66$
Exchange Aerial Cable	84,604.29
Exchange Aerial Wire	11,825.41
Exchange Underground Conduit	178,399.90
Exchange Underground Cable	161,133.41
Toll Pole Lines	2,979.52
Toll Aerial Wire	1,324.90
Toll Underground Cable	7,329.90
Office Furniture & Fixtures	1,840.15
Stable, Garage Equipment	1,514.02
General Tolls & Implements	4,584.13
Intangible Capital	561,322.25
Total	\$1,359,740.94
Total Physical Property Purchased	9000 510 00
Total Plant Displaced	\$208,518.69 340,373.59
Tiant Displaced	340,373.39
Balance plant still in service	\$468,145.10
Plant Displaced	\$340,372.59
Plant Displaced Salvage from Sales and Recoveries.	126,616.04
Charged to Intangibles	9909 757 55
Charged to Intangibles at time of purchase	\$203,757.55
god to intangioles at time of purchase	551,222.25
	\$754,979.80

An appraisal of the property was made and its reproduction cost new at that time was determined, and its depreciated condition was determined, and the valuation placed on the property on the basis of its value in its condition at that time. This was in conformity with the rules of the Inter-State Commerce Commission with reference to such matters, strictly in accordance with the Inter-State Commerce Commission as set out in uniform systems of accounts on Page 33, paragraph No. 13. That system of accounts was introduced in this case as Exhibit No. 11. Those rules were complied with literally in placing this property on the books of the Company as shown in Exhibit No. 172.

"Q. Mr. Scott, on page 1 of Mr. Lyndon's Exhibit No. 2 he sets out what purports to be the additions to the Houston plant, that is, on the physical property from 1901 to and including December 31st, 1919, his figures being, \$3,663,432.00.

"A. I have prepared an exhibit showing what the net additions have been to the plant for the period 1901 to December 31st, 1919.

Mr. J. D. Frank: We offer that in evidence and ask that it be marked Plaintiff's Exhibit No. 173.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 173, which reads as follows:)

(Here follows Plaintiff's Exhibit No. 173, marked page 1832.)

Summary of Physical Property at

Year.	Pole lines.	Right of way.	
1901¢	59,190	104	
1902	12,135		
1903	5,947	98	
1904	7,015		
1905	6,474		
1906	6,685		
1907	10,033		
1908	3,147		
1909	6,552		
1910	11,184	56	
1911	14,296	515	
1912	13,360	231	
1913	28,086	8	
Total 12-31-13	184,104	1,012	
1914	23,732	28	
1915	68,560		
1916	9,465†		
1917	80,043	27	
1918	7,952		
1919	5,174	26	
Add. 1914-1919	103,996	81	
Total 12-31-19	288,100	1,093	

The amounts shown for 1901 are the amounts as of the end of the year.

Deduction in Subscribers' Station Equipment due to transfer of Drop Wire, in the This is the amount as of the end of the year, not net additions.

^{**}Net addition from 1914 to 1919 inclusive.

[†]Red in copy.

PLAINTIFF'S EXHIBIT No. 173.

A. E. Scott.

The Southwestern Tel. & Tel. Company.

of Physical Property at Houston, Texas, as per Books Dec. 31, 1919, Showing Net Additions for Each Year.

e lines.	Right of way.	Aerial cable.	Aerial wire.	Undergr. conduit.	Undergr. cable.	C. O. equipt.	Substa. equipt.	Real estate.	Interest during constr.	Gen. equipt.	Total.
,190	104	60,750	53,660	34,928	45,716	42,346	21,674				318,368
,135		24,270	4,045	851	8,230	19,809	530				69,870
,947	98	24,911	12,820	19,874	10,250	20,055	5,427				99,382
,015		21,287	5,403	4,330†	18,203	16,753	4,439				68,770
,474		20,447	8,619	6,305	7,335	649	7,815				57,634
,685		32,840	4,293	15,610	33,479	75,130	9,260	52,212			229,509
,033		19,851	10,151		10,322	376	14,391	82			65,206
,147		16,874	10,079	422	6,004	1,768†	6,614	4,754			46,126
,552		33,603	9,447	2,277	10,801	16,653	55,023	19,699			154,055
,184	56	12,898	9,385	10,998	10,157†	86,834	25,314	126,293			272,805
,296	515	11,239	13,778	61,925	61,951	48,568	36,093	140,775			439,140
,360	231	40,467	51,586	44,705	39,625	293,988	10,339#†	28,909			502,532
,086	8	24,563	24,584	14,149	51,044	94,358†	44,384	37,414†	865	18,880	74,791
,104	1,012	344,000	217,849	207,714	292,803	525,026	220,625	285,310	865	18,880	2,398,188
,732	28	42,539	20,052	28,623	29,999	45,942	33,776	18,232	1,000		243,923
,560		86,974	18,887	180,743	171,007	287,023	7,012	108,364	2,639		931,209
465		13,843	2,342	9,279	1,286†	4,813	12,330	6,275	491		38,622
,043	27	26,936	3,523	14,195	62,074	136,067†	18,224	1,410+	558		†3,897
,952		34,766	2,043	229	4,136	39,062	13,795	98,269†	706	**	4,420
,174	26	19,860	14,535	19,942	27,256	102,138	35,225	409	1,793	22,870	249,228
,996	81	224,918	61,382	253,011	293,186	342,911	120,362	33,601	7,187	22,870	1,463,506
,100	1,093	568,918	279,231	460,725	585,989	867,937	340,987	418,911	8,052	41,750	3,861,693

e end of the year. ansfer of Drop Wire, in the amount of \$28,883.72 from substation account to Aerial Wire Account. additions.



1833 There is some difference between this exhibit and the amount which Mr. Lyndon set up on page 1 of his exhibit. That is due to the fact that Mr. Lyndon, while accepting some of our book figures, did not accept them in their entirety, so that he arrived at a total of \$3,663,000.00, while our books showed \$3,861,693.00, a difference of something like \$200,000.00.

This exhibit showing net additions does not show anything for working capital, does not include working capital or cost of establishing business, and does not include the intangible items in connection with the purchase of the Houston Home Telephone Company. It includes interest during construction which has been charged on

the books.

We have not always charged interest during construction on our books but prior to 1908 no interest during construction was charged on the books. From 1908 to 1912 interest during construction was charged on the books, and included under the various elements of plant. In 1913, when the Inter-State Commerce Commission issued their accounting circular, that provided a separate account for interest during construction. Then from 1913 on you will see amounts under the heading of Interest During Construction.

Prior to 1910 supply expense, engineering expense, plant supervision and general expense was not charged to the plant actionation and there is nothing included for those years. From 1910 on, those items are included under the various elements

of plant.

On Page 10 of Mr. Lyndon's Exhibit No. 2 under the heading of sub-stations, P. B. X., pay station, and accessories, he said: "The book cost records for these items of equipment show that in 1912 the removals exceeded the additions by an amount equal to \$11,-257.00." Then he assumed the removals in 1912 were of a large portion of equipment existing in 1901; and after making further assumptions there, he arrives at an average age of seven and a half years for those portions of equipment. The removals in that year were not as great as he says they were. Mr. Lyndon took those red figures, which indicate the net removals, and assumes that is what it was. As a matter of fact, there was a change in the classification of drop-wiring. It had been carried as sub-station equipment up to 1912, and in 1912 it was decided that drop-wiring more properly came under the heading of aerial wires, and that transfer was made from the sub-station account to the aerial account. That transfer amounted to \$28,000.00, so that if that transfer had not been made, there would have been a net addition to sub-stations in 1912, and Mr. Lyndon's assumption would have been all shot to pieces,-would not have been borne out by the facts. It is simply a book-keeping item. It has no relation whatever to additions

or removals. The real facts are that the removals did not exceed the additions, but the additions exceeded the removals by some \$18,000.00 for that year. There is some difference in this

Exhibit No. 173 to the figures that Mr. Lyndon used.

I have prepared an exhibit showing the net additions from Jan-

uary 1st, 1914 to January 1st, 1920. I have it in two exhibits. On this exhibit No. 173 I have shown the figures as they are on the books, and I have another exhibit here showing the same figures which are contained in exhibit No. 173 compared with the figures which Mr. Lyndon used.

Mr. J. D. Frank: We offer that in evidence and ask that it be marked as Plaintiff's Exhibit No. 174.

(Thereupon said exhibit was received in evidence and marked "Plaintiff's Exhibit No. 174" which reads as follows:

(Here follows Plaintiff's Exhibit No. 174, marked page 1836.)

		1914.		19
	Books.	Lyndon.	Difference.	Books.
Auto				107,283
Land & Buildings	18,232	4,200	14,132*	1,081
Auto				59,119
Pole Line	23,731	23,731		9,442
Auto				11,825
Aerial Wire	20,052	20,052		7,062
Auto				84,603
Aerial Cable	42,539	42,539		2,370
Auto				178,400
U. G. Conduit	28,623	28,622	1*	2,343
Auto				161,133
U. G. Cable	30,000	30,000		9,874
Auto				2,821
Sub. Sta. Equipt	33,776	33,776		4,191
Auto				158,530
C. O. Equipt	45,942	45,942	1*	128,493
Auto				
Right of Way	28		28*	
Auto				
Int. during Const	1,000	1,000		2,639
Auto				
General Equipt				
Total	243,923	229,861	14,162*	931,209

[&]quot;Red" indicates Lyndon short. "Black" indicates Lyndon over.

^{*}Red in copy.

PLAINTIFF'S EXHIBIT #174.

A. E. Scott.

The Southwestern Tel, & Tel. Co.

Houston, Texas.

Summary of Net Additions, Years 1914 to 1919, Inclusive.

915.		19	16.		19	17.		19	918.		1	919.	
Lyndon.	Difference.	Books.	Lyndon.	Difference.	Books.	Lyndon.	Difference.	Books.	Lyndon.	Difference.	Books.	Lyndon.	Difference.
7,500	107,283* 6,419	6,275	7,500	1,225	1,410*	7,500	8,910	98,269*	9,262	107,531	409	7,577	7,168
9,442	6,881	9,464*	9,464*		8,042	8,042		7,952	7,952		5,174	5,174	
11,825 7,062	0.00=+	2,342	2,342		3,524	3,526	2	2,043	2,044		14,535	14,535	
81,738 5,235 180,743 9,279	2,865* 2,865 2,343 6,936	13,842 9,279	13,842 14,195	4,916	26,936 14,195	26,936 453	13,742*	34,766 229	34,766 230		19,860	18,860	1,000*
116,668 22,242 2,821	44,465* 12,368	1,286*		1,286	62,074	62,074		4,136	4,136		119,942 27,256	19,942 27,256	
4,190	1*	12,329	12,329	1*	18,224	18,224		13,795	13,795		35,225	35,225	
128,493	158,530*	4,813	4,813		136,067*	18,773	154,840	39,062	38,847	215*	102,138	99,822	2,310*
					27		27*				26	*****	26
2,639		491	491		558	558		706	707	····i	1,793	1,792	····i*
*****									221	221	22,870	7,612	15,258
655,877	275,332*	38,622	46,048	7,426	3,897*	146,086	149,983	4,420	111,960	107,540	249,288	237,801	11,427*

Summary.

	Books.	Lyndon.	Difference.
1914	243,923	229,861	14.162*
1915	931,209	655,877	275,332*
1916	38,622	46,048	7,426
1917	3,697*	146,086	149,983
1918	4,420	111,960	107,540
1919	249,228	237,801	11,427*
Total	1,463,505	1,427,633	35,972*



1837 There are a great many differences, quite a number of differences between the figures which Mr. Lyndon used and the figures as shown by the books. The principal difference, of course, being due to the fact that in taking the automatic property here he used the figure for his inventory for appraisal,—the figures from the old Automatic Company books. Of course, we put the property on, as I have explained, in accordance with the Inter-State Commerce Commission, and the figures are different. There are some differences, some of them are clerical errors, and there is quite a difference in the item of land and buildings. Mr. Lyndon assumed an increase in the value of land of \$7,500.00 a year. course, that is not on the books and is not reflected there. There were net additions to land and buildings that actually did take place and which were placed on the books. The net result of that,-the net additions for the past six years, as shown by the books, exceeded Mr. Lyndon's figures by some \$35,978.00.

The red figures that I have under the various columns marked differences, show wherein Mr. Lyndon has failed to include enough property as shown by the books, and the black figures shown under those columns marked differences show where he has added too much.

and the final result is that he has failed to include all of the

1838 property to an amount of \$35,972.00.

In the lower left hand corner here is a statement reading: "See Sheet No. 2 for explanation of differences." That means that I had a Sheet No. 2 prepared intending to have it typed, but never did have it typed, and it is not a part of the exhibit. That should

be cut out,-that notation upon the exhibit.

I have made a study of what the payments have been for the last five years in Houston under the Employees' Benefit Plan. I made that quite recently, within the last two days. I have prepared an exhibit showing how much those payments have been, and how much has been charged to Houston.

Mr. J. D. Frank: We desire to offer that in evidence and ask that it be marked Plaintiff's Exhibit No. 175.

(Thereupon said Exhibit was received in evidence and marked: "Plaintiff's Exhibit No. 175" and reads as follows:

PLAINTIFF'S EXHIBIT #175.

A. E. Scott.

The Southwestern Telegraph and Telephone Co.

Comparison of Actual Payments at Houston on Account of Benefit Fund Plan and Amounts Charged to Houston.	uston on	Account of B	enefit Fund	Plan and Amoun	ts Charged to	Houston.
	1915.	1916.	1917.	1918.	1919.	Total.
Sickness Benefits	3,223	2,516	2,744	6,988	5,864 3,699	21,337
Accident Benefits	. 1,183	531	512	1 684	1,405	3,213 9,102
Death Benefits	. 145	3,307	5,382	5,406	947	15,187
Total Payments	5,530	9,716	10,075	14,529	16,139	55,989
he Act	ual 1,737	1,945	356		3,860	4,566

Death Benefits in 1919:

†Red in copy.

December 31st, 1919, amounting to \$55,989.00. The amount charged to Houston under our method or prorating the expense, to Houston, rather than taking the actual charges, was \$51,423.00, or a difference of \$4,566.00 in favor of Houston. That is, the payment at Houston was \$4,566.00 in excess of the amount charged to it. Under the heading of death benefits, for the year 1919, there was a charge of \$4,224.00, and there was \$2,724.00 paid to William Bloxsom and \$1,500.00 to L. Sumbardo. That case of Bloxsom was where the negro fell against something and was killed. I do not remember the details, but it was an accident case. I don't know who Bloxsom was. In the case of Sumbardo he was one of the employees over here in the Preston Building, in the contract department, and he died from natural causes.

"Q. Now, Mr. Scott, at the bottom of page 2 and the top of page 3 of Mr. Lyndon's exhibit No. 1, in discussing the additions to the plant from 1914 to 1919, he says that during that period of time there was a gain of 4,608 telephones, and that during the average cost per telephone for these additions was \$310.00; he also says that the usual cost for such additions, under the general conditions such as obtained in Houston then, customarily vary from \$30.00 to

\$100.00 per station, the latter figure being considered as unusual and excessive. Now, is Mr. Lyndon correct in his estimate of the number of telephones which were gained during

that period of time?"

"A. No, sir, he took the wrong figure in determining the net gain."

He took his 1914 figures from his 1914 report and he took his 1919 figures from the statement of Mr. Baker. Neither of these figures were the figures which should have been used. The total number of stations on December 31st, 1919, was 27,775, and the total number of stations on January 1st, 1914, was 20,066, or a net gain for the six years of 7,709 stations. Dividing that number of stations into the net additions for that period of time gives \$188.00 per station cost of the additional physical property added to the exchange. That does not include any of the intangible property. That \$188.00 per station is the average cost instead of \$310.00 per station which Mr. Lyndon figured out.

"Q. Mr. Scott, does it mean anything when you draw a comparison, or attempt to make a comparison with reference to whether or not your investment is excessive under this method?"

"A. There can be, to my mind, very little association—there may be at some time an association between the net additions in money and the net additions in stations, but very often there is

1842 no association. I have made a recent study in Missouri of the net additions to stations and the net additions to plant, and got what appeared to me foolish figures, and I decided that you couldn't tell a thing about it."

I have a certified copy of the report of the Keystone Telephone Company to the Inter-State Commerce Commission for the year 1918. I will show you an illustration of the fallacy of attempting to determine whether or not an investment of this kind is excessive on this method. On page 204, Schedule 211-B, at the bottom of the page is shown a net addition to physical capital of \$249,077.00. That is addition to the plant account. Someone referred to that here a day or two ago as \$170,000.00. In explanation of that report, it appears that figure was erroneously taken. I believe this figure is the wrong one, it is the 1917 report. I think that \$170,000.00 was right, and it was in 1917 that they showed an excess of \$170,000.00 in the plant and a decrease of some sixteen hundred in stations. Regardless of whether it shows an increase or a decrease, it is not a very accurate way of determining whether or not the investment was excessive. There is no association between net additions to stations and net additions to money. Take what may happen in Houston if we change to the automatic board from the manual board. I understand that it is going to cost about \$750,000.00, that

the additional investment in Houston will be that. That is after we have made due allowance for the boards which are removed, not the junk value, but taking out the full value of the boards which are removed. I figure that we would have \$750,000.00 for net additions and probably no additions to stations. With reference to the statement which has been made in this case, that the Keystone Telephone Company set aside a reserve for depreciation of \$4.00 per station, and that it has been found sufficient. I have examined the records from the Inter-State Commerce Commission with reference to that. I have a certified copy of the Inter-State Commerce Commission's report from the Keystone Telephone Company for the year 1914. I will tell you why I couldn't get that other figure right a while ago, -because I got my wires crossed. talking from the 1914 report before. On page 313, of schedule No. 396, they show a transfer of \$534,516.00 from their surplus account to their depreciation reserve account. Now, on that other net addition proposition, instead of \$249,000.00 which I first mentioned, the net additions were \$172,173.00. That is the report for the year 1918, and their station loss in the year 1918 was 1,555 stations.

During the course of Mr. Lyndon's direct examination he testified that interest during construction and also taxes during the construction should be capitalized. The Southwestern Company capitalizes interest during construction, but does not capitalize taxes during construction. The Company has the authority and instructions of the Inter-State Commerce Commission for capitalizing this interest during construction.

Mr. Howard: We admit you have the right to do that.

I have made a study of this Keystone Telephone Company's 1918 report for the purpose of making a comparison between the calling rate of the Keystone Telephone Company in Philadelphia and the calling rate of the Southwestern Telegraph & Telephone Company in Houston and the result of my investigation was that I found the

Keystone Company for the year 1918 had 144 local exchange messages per month, ot about four per day per station; 114 per month per station or about four per day.

Mr. D. A. Frank: That is not four per day, that is less than three a day.

Mr. Scott: This is 114 per station per month.

Mr. D. A. Frank: I beg your pardon.

The calling rate at Houston is about nine per day, so that the calling rate for Houston is more than twice the calling rate of the Keystone Company in Philadelphia. Now, the Traffic expense for the Keystone Company for the year 1918 was \$268,000.00, and the Traffic expense for Houston for the year 1919 was \$418,000.00. That was less than one half.

I have a statement showing the realized depreciation. It was not

prepared by me but prepared by Mr. Hoag.

Mr. J. D. Frank: Well, we will put it in by Mr. Hoag.

Cross-examination.

(Questions by Mr. Howard:)

In this comparative total that I make here in my exhibit, 171, the first difference in the expenses is the four and a half per cent. I had one view of that and Mr. Lyndon had another. Then on the income tax my company has one view and Mr. Lyndon another. On depreciation I show a figure in red of \$223,680.00. That is

depreciation I show a figure in red of \$223,000.00. That is 1846 an expense that is just as real as paying the operators' wages and must be provided, just as much as they must be provided. It is not as definite of ascertaining as the operators' wages, but it must be determined on experience, and the amount is derived from the percentage. It was determined by Mr. Hoag from his inventory and I took it from his inventory and appraisal. The physical property was something like \$6,000,000.00 I think, and the rate was 6.33 and that produced \$360,000.00. I don't know what prices Mr. Hoag used to start off with. I understand he used prices based on a year or two years prior to the time of his appraisal. Now, as to whether they are high prices or low prices, that is a matter of judgment. Of course, if Mr. Hoag had used \$10,000,000.00, we would have had to figure the depreciation and I don't know what figure we would

have gotten.

All these things that I have gone over and pointed out in regard to Mr. Lyndon's set up of this expense indicates that I disagreed with Mr. Lyndon in the matter of how these items should be handled, and I think Mr. Lyndon agrees with us that his set-up in Exhibit No. 7 is wrong. He has not testified to that effect. I have talked to him. I think that he feels that the omission of part of the toll expenses naturally nullifies the effect of his exhibit. Of course that may not be right. (After conversation with Mr. Lyn-

don, witness testified as follows:) Mr. Lyndon thinks that 1847 I did not quite understand him. I withdraw that statement.

This Company has a reserve on hand for replacements. It is in the form of an investment in fixed capital. It amounts to five and a half million dollars. That is for the State as a whole. That is not kept as an exchange item itself. I understand by that that they set up a reserve and then take that money and spend it anywhere without regard to where it was earned. It saves borrowing money to use the reserve. You borrow it from the reserve a little at a time, until such time as you need a large amount of new capital. At that time you borrow sufficient money to replace that reserve which you have used up. In other words, you keep your reserve working all of the time. We do not keep any books to show what part of that reserve was earned in Houston or any other exchange, you can only tell that by going to the balance sheet for the company as a whole and the fact that you will find a reserve on hand in cash and you do have additional property it means that you have used your reserve to replace property.

"Q. Well, now, don't you allocate that fund to Houston upon the

basis of fourteen per cent?"

"A. Allocate the funds to Houston?"

"Q. Yes, here is what I mean exactly; Mr. Scott; that this fund, this replacement frund, is earned by the different communities from the people and paid by the different communities. Now, you gentlemen take all that and put it into a common pot and when you come to take it out, do you mean to say that you

take that fund and put it all in San Antonio, or put it all in Austin or some other town and not use any of it in Houston, that you don't keep any, that although you collect certain amounts, definite amounts from certain exchanges and localities that you put it all in a hotchpotch and never unscramble the eggs?"

"A. If you would not do that, it would be very uneconomical.

"Q. I did not ask you about that. It seems you and I can never agree upon economics because we don't look upon them at all from the same angle.

Mr. D. A. Frank: Upon Mr. Lyndon's theory, this fund would be \$28,000,000.00 in debt in Houston in the last ten years.

Mr. Howard: I don't know about that; somebody has been get-

tung the worth of it.

It makes no difference to the exchange what amount is collected from a particular exchange and the amount of that fund that is allo-

cated to it for replacement. There is no difference between the way we keep our books and the facts. If our replacements have eaten up our reserve at the particular exchange we have

no reserve in the pot, or anywhere else for the exchange.

"Q. But, if you collect this 6.33 from this community every year and you put it in a big pot and you get that money and you pull that down from all over the State, that is a nice big fund, then, now, does the money, does this local plant get back in the way of replace-

ment or upkeep of this plant or additions to this plant or the benefit of this plant all depends upon the whim of somebody."

"A. It depends on the needs of the community."

"Q. It depends on the need of the community, and if Galveston needs it worse than San Antonio, would you take our money and send it up to Dallas and if Houston needs it worse than Dallas you take Dallas money and send it down here?"

"A. Yes, but we have never taken any of Houston's money."

We have never taken any of Houston's money but that is the way the reserve is handled. That is the fact in the case. As long as Houston is getting all the replacement it needs, and the reserve is there to take care of them when they are required, Houston need not worry where the reserve is, whether it is in cash or whether it is invested in property. This community does not care anything

about how much money we have taken out of here and how

much was sent to Dallas of El Paso. You don't care if we take \$100.00 out of Houston and invest it in property at San Antonio, or we put it in the Bank. Does it make any difference to you whether we, when we need the \$100.00, we would have to get the \$100.00 from somewhere. It does not affect anybody at any time, as long as Houston gets all it needs all the time, what is the use of dividing the pot up, put some in one time and some in another. They are getting their additions just as fast as the needs of the company require it. The community is not entirely dependent upon the arbitrary determination of the Executives of the company as to where the money will be spent. If we did not handle it in this way I think you would accuse us of being very poor managers.

My exhibit No. 172 sets up the classifications of the property of The Home Telephone Company. There is no appraisal of that property. I worked that up to show how we now have \$754,000.00 in intangibles when we only had \$551,000.00 at the time we bought the property. The next to the last item in the statement shows \$551,222.00. That was the excess of the cost of the property, over its structural value put in Account 204, in accordance with the Inter-State Commerce Commission instructions. I have that intan-

gible item as \$551,222.00 and Mr. Lyndon got an item of something like \$700,000.00. That would depend on the valuation that was placed on the physical property.

"Q. You placed a somewhat higher value on the physical property than Mr. Lyndon, wherein he claims that there was about \$700,000.00 that was intangible that was represented by no assets, you claim there was only about \$551,000.00."

"A. No, that was simply the difference between the structural

value and the total amount paid at that time."

t since that time, we have taken down a considerable part of the old automatic property and determined that it had no structural value and have added to this \$551,222.00 the loss on that property. That is the way that developed to the \$754,000.00 which we now have on the books. So that, Mr. Lyndon, and ourselves at this time are pretty close together. We are pretty nearly agreed upon that

item of \$754,000.00. I think Mr. Lyndon's figures came from a previous exhibit of ours. At that time there had not been as much property taken down and thrown away. I claim that I set that item up in accordance with the rules of the Inter-State Commerce Commission. I did not say that the Inter-State Commerce Commission has ever determined that that must be considered as plant value in fixing the value of the property for the purpose of bearing a return,

I did not say anything like that. I was telling you exactly

what was on the books, I was not talking about rate matters. The purchase of the Telephone Company was financed in this manner: We assumed their bonded indebtedness of a million We paid certain floating indebtedness that they had, billed outstanding, I think the total of the two was the amount that we paid, almost equalling the total we paid. In addition to that we paid the City \$80,000.00, that making up the total purchase price of the property. That is part of the amount that Mr. Lyndon has thrown out, part of the \$700,000.00. I used the word "assumed" in the sense that I considered it a definite obligation to pay them and we have paid some of them. We have since bought \$70,000.00 and paid for them practically, paid them off. Nobody knows who owns those bonds, they are out in the hands of the public. We have never made any arrangement for adjusting them in any way but they are carried on our books at par and I said we have paid for \$50,000.00 of them at par. We are paying them off day by day.

Mr. Lyndon and myself substantially agree upon net additions since 1914 there being a difference of only about \$35,000.00 but that just simply happens to work out that way, Mr. Lyndon assuming certain things and eliminating other things and put-

ting some things in, comes to a net result of \$35,000.00, apart from mine. Of course, my figures are the actual figures of the books and his figures, some part from the books and others were not. I do not think he found the books wrong. I don't think there are any errors in the books. At any rate we came out only \$35,000.00 apart. The real estate will not make up that in four or five years. If he had not assumed that increase in value of real estate, our difference would have been \$70,000.00 instead of \$35,000.00. It would have just taken us that much further apart.

The Traffic Expense is less per call for us than for the Keystone Telephone Company. The Keystone had in 1918, 39,262 telephones, and the average calls per month were 114. This also shows the total per months for all stations, it is 4,483,461. That is the total number of local exchange messages during the month. I would have to figure it out to tell how many there were here. It was an average of 9 per station of 26,500 stations averaged about 26 days per month. Houston has more than twice as many calls per station as the Keystone Company does. The total cost of Traffic operation for the Keystone in 1918 was \$418,000.00,—that was for Houston, and for the Keystone \$268,000.00. Upon that showing the Keystone per

call would not be the cheaper. I think it figures out that the two are close together, but I think that Houston is somewhat greater.

The statement that has been furnished you of the value of the toll lines at \$8,602,000.00 is not correct, that is only the toll lines and does not include the toll right of way and does not include the toll switch-boards. The switch boards are carried in the local exchange, but you asked about the value of the toll property, and switch-boards are carried in the local exchange property account. That amount does not include the right of way. The right of way could have been included in that. It is carried as a total account, the right of way is, but there is a division on the books which could have been obtained. That is an ommission that could have been added to that.

Redirect examination.

(Questions by Mr. J. D. Frank:)

I have referred to having appeared before the Missouri Public Service Commission with reference to working capital. I have appeared before the commission a number of times and have appeared before it in a case in which I put in this 25% toll allowance to local exchanges. They have accepted that in every case I

have appeared in, I understand. In fact, I know that in the St. Louis case, which was before them from 1913 to 1916,

St. Louis case, which was before them from 1913 to 1916, that they did not accept the 25%. They took the 25% as we have figured it and added to it approximately \$10,000.00. They did that because there are a great many toll calls out of St. Louis to the suburban districts the rate on such calls is 5 cents, and they felt that allowing only 25% of these 5 cent calls was not giving a sufficient credit to the local exchange, so therefore they added \$10,000.00 to the 25%. That was for the City of St. Louis.

The depreciation on the toll lines within the City limits and depreciation on toll central office equipment in the City of Houston is not charged to Houston. That \$360,000.00 which I used was determined by Mr. Hoag from his figures and his figures did not indicate the central office equipment and no part of the toll property.

With reference to the reserve for depreciation. In order to earn a reserve you must first have a certain amount over and above a fair return. Houston has not earned any reserve for depreciation; as far back as 1916 it has not made a fair return; therefore it has not made any reserve. Replacements have been made in Houston whenever

they were needed and therefore Houston has been getting the benefit of this common put fund that Mr. Howard has been talking about.

J. C. Kelsey, a witness for the defendant, being duly sworn, testified as follows:

Direct examination.

(Questions by Mr. W. A. Howard:)

I have made an investigation of the Houston Telephone property. With reference to the scope of my investigation, as soon as I came I

got in touch with Mr. Lyndon, read all of his reports, I especially wanted the Company's case in 1914. I prepared here a statement of what I found; Mr. Lyndon has got all of the stuff we based it on. It is the first sheet of a summary attached, and it is based on the 1919 report, the actual receipts.

"Mr. D. A. Frank: I don't see how he has laid the basis for the introduction of any such testimony in the absence of anything that is in the records so far. It will be hearsay on hearsay. Of

1858 course, I understand the Master will receive the testimony but I want to reserve a formal objection to the testimony coming in, which, on the face of it, nothing that this witness knows, of his own personal knowledge, and by his own admission, is nothing but hearsay based on hearsay. Mr. Kelsey, from whose figures did you make investigation, Mr. Lyndon's, or the Company's?"

"A. I based this calculation entirely on the Company's figures."

I got the Company's figures from a statement, I think Mr. Lyndon can give us that and show you an exact copy of it.

1859 Lamar Lyndon, a witness for the defendant, testified as follows:

Direct examination.

(Questions by Mr. W. J. Howard:)

"Mr. Howard: For the certain purpose of laying the predicate, I want to have this understanding with you. I am not putting Mr. Lyndon on the stand now about the valuation, or to go into details, except to verify the figures Mr. Kelsey took as the basis. Mr. Kelsey, will you just let Mr. Lyndon take the stand for a moment?"

This is my 1914 Report. I made a valuation of this for the Company in 1914, by the reproduction, less depreciation method. I took the Bell Company's inventory as of 1914, and I applied to that certain unit prices and material costs, unit cost and material prices. I am sure of that.

With reference to procuring the unit cost and material prices, in a number of instances, we accepted unit cost and a good many of the prices were submitted to us by the Bell Company as correct. In

other instances, where they seemed to be too high, we ob-1860 tained such quotations from various sources and used those quotations, properly loaded, as a substitute for the Bell figures in those particular instances.

"Mr. Duls: That is a 1914 Report made by Mr. Lyndon on the properties of the Telephone Company in Houston?"

"Mr. Howard: Yes."

"Mr. Duls: Submitted to the City Council."

"Mr. J. D. Frank: It is entitled: 'Report on Telephone Service and Rate, the City of Houston, Honorable Ben Cempbell, Mayor,' and the further mark (at the bottom), 'Lamar Lyndon, Consulting Engineer, New York, Henry E. Elrod, Consulting Engineer, Dallas.'"

"Mr. Howard: To qualify this, I don't care to put it in evidence

at this time."

I did not make any valuation based upon the Company's costs and material prices, but the Company submitted to us a valuation of its own at the time, based upon its own unit price and unit cost.

"Q. Own unit prices, and own inventories. Do you know what figure that they arrived at?"

"Mr. D. A. Frank: I object to that on the ground that it is immaterial and irrelevant what may have been tendered to Mr. Lyndon in an investigation of that kind in 1914, would throw no light to this Court on the question before this Court at this time, which is the present valuation of this property at the present

time, and I object to it on that grounds."

It is one step in the-

"The Master (interrupting): The objection is overruled." "Mr. D. A. Frank: Your Honor will note our exception." "The Master: Yes."

"Q. The valuation was placed upon that property, upon the reproduction method at that time?"

(Mr. D. A. Frank:)

"Q. Before you answer that question I want to ask you: Did the Company make a valuation at all upon the reproduction method?"

"A. The very complete record that was handed to us indicates to

my mind that they certainly did."
"Q. The record of what?"

"A. The record of the books, the record of unit prices and costs, which were handed to us by somebody, I don't know his name, but some accredited official of the Bell Company."

1862 "Mr. D. A. Frank (interrupting): I object to the words "accredited official."

"A. Well, some person who claimed to be connected with the Bell Company, and who claimed to have the inside of the Bell Com-

pany."

"Q. Now, Mr. Lyndon, you have been on the stand often enough to know that the Company would not be bound by such a statement as you are making. Please confine yourself exactly to the facts and don't be telling what a person said."

"A. From 1914, to 1920, my memory doesn't carry the specific

individual."

"Q. Tell the Court the report that you made."

(By Mr. Howard, interrupting:)

"Q. Just a moment, Mr. Lyndon, do you know that the official, or man, who handed you those figures, was at the time in the employ and acting for the Southwestern Telephone and Telegraph Company?"

"A. I was surely under that impression or I wouldn't have put in some fifty pages as the valuation of the Bell Company, as a portion

of a period report."

"Q. You got that information from the Company used by them at that time, after obtaining the data for your report?"

"A. Yes, sir."

(By Mr. D. A. Frank:)

"Q. Did it have a full set up of a reproduction case just like we have got in the present suit?"

1863 "A. It has, and that's from a portion of this record which

you have just inquired about."

It has a full set up, going value, working capital, tools, and things of that kind. I believe there is no intangible set up. As to what I mean by "intangible," I think there is no going value, or cost of establishing business; neither of these. It is a complete valuation of the physical properties; there is very little imaginary in it, mostly all physical property. The total reproduction value in 1914, as we found it, \$2,480,935.00; as we found it. As the Southwestern Telegraph and Telephone Company set it up and gave it to us, and have repeatedly referred to this valuation in their allocation, we assumed the allocation of annual charges, we assumed that what they meant was \$2,326,940.00. This was the value new and undepreciated up to the end of 1913. It included no 1914 values. The report was made during 1914, and therefore, our records terminate on December 31st, 1913. It was the reproduction value of the property new.

The Company, at that time, used the same addition charges; they said that in addition there were certain overhead charges that were necessary to be added, which their method of construction required, amounting to \$345,271.00. I did not misquote the Company just now when I said this figure of \$2,326,940.00 was reproduction.

1864 "Mr. D. A. Frank: I think in fairness, Mr. Lyndon ought to confine himself to the facts, and not conclusions."

"Mr. Howard: He has taken the reproduction method of applying your unit cost and unit prices as you set them up and then later on he says that he arrives at a certain figure. Then he says later you asserted a certain overhead charge and then added and given you credit for that."

"Mr. D. A. Frank: You know enough about a rate case to know that the Bell Company never in this world set up a figure for the physical value, the total reproduction of the physical value, of the property new, without the overhead. If Mr. Lyndon doesn't know

it, you knew it."

"A. (continued). May I read the last quotation from this report made in 1914, when we had no quarrel with the Bell Company, and when I suggested at the time that the rates were proper and should not be changed?"

"Q. Yes, read it."

"Mr. D. A. Frank: I think the report speaks for itself. It is in evidence."

"A. The Company's inventory shows the total cost of the physical properties, including real estate to be \$3,326,940.00, exclusive of these addition charges."

(By Mr. D. A. Frank:)

"Q. \$3,000,000.00?

1865 "A. \$2,000,000.00, I beg your pardon, \$2,326,940.00. Let me start above that quotation. 'All the foregoing figures are meant to represent actual physical cost of Purchase of Properties, Purchase of Apparatus and Supplies, Labor and Overhead Expense, but they do not include the items of Engineering, Errors and Omissions, Interest, Taxes and Insurance, during construction, and other minor charges. The Company's inventory shows the total cost of the physical properties, including Real Estate and Buildings, to be \$2,226,940.00 exclusive of the addition charges. According to the Company's computations, the total amount of all the addition charges, properly applied to the different items, amount to \$345,271.00, giving as the total physical value of the plant \$2,672,211.00. The complete tabulated statement of these additions to cost or file."

That did not include part of what was known as the "Old Home Telephone Company" in use. That was prior to the purchase of

the Old Home Company.

At the time this report was made, a report was made on the property of the Home Company, which was then a going concern, at least, it was then in operation and the property was valued and the valuation was based on a series of agreed figures between the Home Company and ourselves. We practically agreed upon every figure at

the time and the figures were mostly made up of actual cost, plus overhead. We found the total cost of the property, or rather the total value of the property, exclusive of intangibles,

which is to say, the total physical value of the property new, \$725,-123.00, at that time, with an accrued depreciation of \$59,950.00, which left as the then value in 1914, \$665,173.00. This is the 1914 report on all the Telephone properties in Houston, including the Home Telephone Company.

"Mr. D. A. Frank: We renew our objection to his testimony about his finding with the Home Telephone Company, because we cannot be bound by any agreement he made with the Home Telephone Company."

"The Master: Certainly not. Objection is overruled, however."

"Mr. D. A. Frank: Note our exception."

I do not mean to say that there was an agreement that I made with the Home Telephone Company. Whenever we arrived at figures, we discussed them with the engineer of the Home Telephone Company, at that time, Gngh,—G-n-g-h, and with possibly one or two other officials. Of course, these details are cloudy, after six years, but I remember that we went over the subject with proper officials of the Home Telephone Company and there was no objection on their part to the figures we reached. Some time there would be suggestions from two sides, and what I meant, when I

said "we reached an agreement" was there was no differences

1867 between us of a substantial nature on the value of each item
of the property. In that we made no agreement with the

Telephone Company.

"Mr. D. A. Frank: Your Honor can see how remote that is."

"The Master: Yes, sir."

"Mr. D. A. Frank: Are you making this witness a general witness?"

"Mr. Howard: No, I just wanted to see what data he turned over

to Mr. Kelsev."

"Mr. D. A. Frank: Why not have him state what data he turned over to Mr. Kelsey and assume that that is the data that he turned over to him and let him go on?"

"Mr. Howard: I just wanted to get this."

"Q. From those statements and the way you arrived at that opinion, did you determine the value of the entire physical properties of this company, including the Old Home Telephone Company's properties?"

"Mr. D. A. Frank: I object to that without this witness being qualified, and laying the proper predicate for it, because we wouldn't want to be bound by that sort of testimony. If he wants to state

what he told Mr. Kelsey, and what he turned over to him, I

1868 have no objection to that at all."

"Mr. Howard: If The Court please, these hearings are necessarily not conducted on the same line as a trespass to try title suit where you have to file your suit and give notice and if you don't do it—"

"Mr. D. A. Frank (interrupting): I am not going to be technical

at all, Mr. Howard."

"Mr. Howard: He speaks about the remoteness of this character of testimony. We are trying to get primarily at these values. We have a witness here that valued these properties even prior to the time the Southwestern Telephone Company bought it, and he ascertained from the owners of the Company at that time what they considered and treated as a value of the reproduction. That is very strong evidence of value. While they are not bound by any agreement, they are bound by evidentiary facts. This is the way to get values, by going and talking to the owners of the properties at that time. This man, together with the owners of the property, are not objecting to the values placed on it."

"Mr. D. A. Frank: You overlooked the fact that you are merely

laying the predicate for some other testimony."

"Mr. Howard: That is all."

"Mr. D. A. Frank: At the same time, you are arguing to have this evidence in here on valuation. Now, if you could confine your testimony to laying a predicate for Mr. Kelsey to testify, I haven't any objection, but if you are trying to make a valuation witness out of this man, I want you to qualify him. Just show by him what he turned over to Mr. Kelsey, I

haven't any objection to that,—no objection to him saying it."
"Q. Now, Mr. Lyndon, you did at a later period obtain from the
Company the actual plant investment and additional capital from

1914 up to date, did you not?"

"A. I had Ernst & Ernst request it and some papers came which

purported to be that."

"Q. Well, you requested it and it was delivered to you and it was delivered by Ernst & Ernst as a statement of their addition?"

"A. I assume so. It was done at some other place."

Yes, I got it and worked on it; I accepted it. I know it is true but I cannot testify that it is true because I didn't see them hand it to Ernst & Ernst. I turned that data over to Mr. Kelsey and he examined that.

(By the plaintiff:) That is, I turned the data over to Mr. Kelsey that I had had turned over to me by Ernst & Ernst, and told him

that it had been furnished me by Ernst & Ernst.

"Mr. Howard: Are you gentlemen going to take the stand that these were not proper figures?"

1870 "Mr. D. A. Frank: Not at all. I merely wanted to know

what it is you are putting in there."

"Mr. Howard: Will you question the authority of Ernst & Ernst?"
"Mr. D. A. Frank: I have not; I merely asked him how he got it."

1871 J. C. Kelsey, a witness for the defendant, testified as follows:

Cross-examination.

(Questions by Mr. D. A. Frank:)

I did not testify in the Enid case that \$5.50 per station was about right for the depreciation reserve in that case, it was \$4.00, Mr. Frank. In those days the operating expenses were about \$13.00 and I added to it \$4.00, which made \$17.00 and at that time we agreed on about 10% on the \$100.00 valuation at that time, that made \$1,700.00.

I remember the Chairman come right out, he said, "How much does it cost to feed a steer a month?" In other words, what does it cost to run this telephone a month?" I said, two twenty-five. That surprised Mr. Chipley, if you recall the details. I did not tell Mr. Chipley anything in that case. Chipley wouldn't let me go on the stand. I got on the train before I come to Guthrie. Mr. Chipley

was afraid I might spill the rate-making beans, or something. We went over to the hotel and made a study of the property. I said, "It is costing you about \$13,000,000.00 to maintain this plant, but it is hidden reserve in here. I think you are entitled to \$4.00." So that made \$17.00.

I did not, in that case, agree that 7% for depreciationnever in my life agreed on an elemental proposition,-never

agreed on the 7% proposition in the Enid Case.

By the way, that testimony, I would like to read it. My report was \$13.00 for the expenses, actually had, plus \$4.00, plus 10% on the actual cost of building that property at that time, which was

\$100.00 per station by some curious prank.

"Q. The official report of it shows that the question was asked you: "Mr. Kelsey, this Company has prepared its rate of depreciation at seven per cent per year. Should lines live fourteen or fifteen years, would that be a fair figure? A. I think, in view of having so much property exposed to the elements of the prairies of Oklahoma, that a basis of fourteen or fifteen years is just about fair and equitable to both parties.' Do you recall that?"

"A. Yes, sir, I also recall that was 1909, wasn't it? We have

had fourteen years since that time."

"Q. I am only talking about that."

"A. I am very glad to have this. I understand there wasn't any record of my testimony down there. I am glad to know it exists.

"Q. It exists."

"A. Now, let's have it all. We all learn something in 14

1873 years' telephone operation."

- "Q. The next question asked you: 'Mr. Kelsey, it is the evidence before this Commission that the limits of the depreciation which must be provided for in consideration of the wear and tear and calamities and other conditions. I would like to know if you concur in that?' And your answer: 'If you add the word 'rust,' I would agree with you thoroughly.' That's is on page 468 of your testimony in that case?"
 - "A. That was, and the date was what, Mr. Frank?"

"Q. The date was-"

"A. (Interrupting.) 1906, wasn't it?"

"Q. No, sir, it was July, 1908."

"A. Yes, 1908,—that is 12 years ago."

"Q. July, 1908, was the date of the appeal."

"A. Oh, yes, before that, it was. My impression was it was 1906." "Q. The suspending bond was made May 25, 1908. The case was filed on February 4, 1908."

"A. Yes, it might have been about that time. I don't remember."

1874 "Q. It was between February 4th, and sometime in May. Do you remember this question, also, Mr. Kelsey, asked by Mr. Chipley? 'Mr. Kelsey, what would you consider the average life of a telephone plant in this section of the country?' A. So far there seems to be two general changes, I do not refer particularly to Oklahoma. There seems to be two general changes in twenty-five years. On that basis, it looks like our general depreciation fund would be eight per cent but there is always something to be saved out of the wreck, and eight per cent is rather high, in fact, we have quit going on percentages altogether. We like to fix a definite sum per station, which simplifies matters, it is easy to explain to bankers, it is easy to explain to stockholders; it is a detailed matter so that at any time you may know the exact cost of any month or quarter or year.'

A. That sounds familiar.

Q. That sounds familiar, does it?

A. Yes, sir.

Q. That is on page 467 of your testimony.

A. Now, how long,—by the way, there has been no change in 35 years. Now, we have had two cycles in thirty-seven and one-half years.

Q. Now, on page 466 of the same record, you say: "We put a safe average upon each station per year. In the Keystone Telephone Company we decided that \$4.00 per station per year was sufficient

and reasonable reserve to take care of all maintenance and 5 take care of the plant. That was completely underground.

Now, we have determined that a plant that is underground down town and all cable overhead in the outer part should set aside \$4.50 per station per year. For the plant that is wholly overhead and all cable, we have determined from averages that it should be \$5.00 per year. A plant of loose and careless construction, lines and wires, open and indifferently constructed, \$5.50 per year."

A. We allow you \$5.62.

Q. Well, I am just taking your record here.

A. That is fine. I am awful glad to have that read. Q. You said you only allowed \$4.00 in the Enid case?

A. Yes.

Q. You actually allowed \$5.50? A. Where is the table I filed?

Q. Your table is not here.

A. Well, it ought to be, \$13.00 plus \$4.00. Come across with my exhibit there.

Q. Your exhibit is not in here, Mr. Kelsey.

A. Oh well then, I would love to see that old exhibit again. \$13.00 was the average cost of everything and I gave them \$4.00 on top of it. Then I gave them 10% on the property in Oklahoma at that time.

Q. But you agreed with your counsel that 7% was a fair figure.

A. Well, it might have been at that time, yes. In the light of information that we have since had—that's the trouble what might happen. I would much rather be in a position of knowing what will happen than to say what has happened.

We were all experimenting there.

Q. It is possible, Mr. Kelsey, for you as an engineer to take some life tables and calculate what a possible life would be for the plant?

A. It is possible to make any study of figures. You can make a study. You can give opinions. I am sick and tired of opinions. I

have had engineers say that a pole lasted so and so. He doesn't know. He doesn't know, but I do know what it cost.

Q. But you are undertaking here to give an opinion without

anv-

A. (Interrupting.) I haven't given any opinion.

Q. Haven't you given an opinion about the reserve depreciation? A. No, no, I give you the difference. I am assuming that the

total average is \$11,00 and whatever is left is yours. We don't want to cheat you on that. We come in here and say that is all it cost you

to run but you are doing so well, I said there must be \$5.62.

Q. You have got \$11.00 that you arrived at about 15 years ago? A. No, no, this morning, we were going through this thing and find it is, gosh, it is getting less,—I am so used to this informal business. I have been ruined by this informal business, and I don't want to be disrespectful.

The Master: Go ahead

1877 The Witness: I love to talk about this proposition.

Q. Now, you arrive at the figure as you said, 15 years ago.

A. And I see no reason to change it the way the thing looks. I am going to lower it some day.

Q. You arrived at that from the experience of the Bell Company?

A. Oh, I took a summation of everybody. I took everybody's figures added them up.

Q. Didn't you state that the Bell Company had used \$11.00?

A. I think so, that is in there.

Q. And for that reason you had used four?

A. Oh, no, I am studying the Bell Reports, in my studies and their performances,-I found a long time ago that this \$11.00 was a magic figure. That magic \$11.00 I never found a plant anywhere in the world that was running any higher than that. When you get underground, get all these modern substantial buildings and everything up, it is going to be less.

Q. Mr. Kelsey, the \$11.00 that you speak of is an average figure

for the entire United States, isn't it?

A. Oh, it is an average figure based on my study of every plant that I have ever tackled. If you will look there you will find that one year, I wrote the story of about forty or fifty independent tele-phone companies. You don't like that \$4.00. Your com-

1878 pany never did. When I say "you" I am talking about your

boss.

Q. Well, I have no "boss." That is a matter of opinion. Now, that is an average figure for the entire United States, isn't it?

A. At that time I made up my mind that there was a maximum for any telephone subscriber in the United States. It was an average based on experience and all of my studies and analyses of a telephone system, accounting of expenses, up to date. I never found a greater thing than \$11.00. Not necessarily an average. It might be called an average but when I applied this to any property in the United States you can't show me more than \$11.00 and I will give you a medal if you can.

Q. Mr. Kelsey, I notice in your set up you didn't have anything for the cost of establishing business.

A. Oh, yes.

Q. Do you believe in cost of establishing business?

A. I accepted your figures as a maximum, and your \$2,600,000.00 includes everything. These are 1914 figures.

Q. August 1st, 1914, have you something there to show what those

figures are?

A. I got them from the City Engineer's Report.

Q. And what figure did you use?

A. Why, you have got it in my exhibit. Two million.

Q. Well, have you a detail of it there?

A. Mr. Lyndon, I suppose, will come along and give you the details there.

1879 Q. You have a statement here.

The Master: I think that is a copy of it.

Q. Yes, sir, you have a statement here on the first page of your

exhibit "Value of property, 1914" \$2,672,211.00."

A. That was given to me as your reproduction value at that time. It was my understanding that contained something for cost of establishing business, included all your overhead. If that did not include anything for the cost of establishing business, I would not necessarily want to take that in. I do not believe that there necessarily ought to be something for cost of establishing business; I believe that is about the fair average. In a growing concern, such as you have here, it does not cost anything to attach business,—not very much. It costs about \$5.00 to get the average subscriber.

Q. How much does it cost, \$5.00?

A. Oh, you have a training school that is charged in your regular bills.

Q. Does it cost anything?

A. Yes.

Q. Does it cost \$68.00 to operate it?

A. That is a continuous performance. That is another immortal idea. You are always educating your girls in a school.

Q. Just answer the question: Does it cost anything? Never mind

how it is paid.

1880 A. Of course, there is some expense in getting a girl up to the board, yes.

Q. Does it cost anything for the rest of the Organization?

A. Oh, a little, yes.

- Q. If you had a brand new plant here and started out without an Organization,—
 - A. (Interrupting.) Oh, you can't conceive that proposition.
 Q. Would you have to spend any money for an Organization?

A. Oh, no.

Q. You wouldn't have to spend money for that at all?

A. There would be some, of course, but you far fetch the proposition.

Q. Would you have to spend any money for subscribers that came to your office to subscribe?

A. That is in your historical study. If we approach this propo-

sition around through the other way, you will have all that.

I saw Mr. Lyndon's version of your 1914 Report. In other words, I take the version given to me by Mr. Lyndon; I have no time to take anything else, and didn't even look at the 1914 report.

Mr. Howard: Are you disputing this report prepared in 1914? Mr. D. A. Frank: It is very apparent that I am disputing it. This

is a fair inference, from what I have said.

1881 Mr. Howard: Are you disputing the material prices and unit costs they set up in 1914, and are you disputing the inventory that they set up in 1914, and are you now asking for going concerns to be added where you have paid those very charges out of operating exenses? Is that what you are getting at?

Mr. D. A. Frank: If you will just be patient, I will have this wit-

ness answer the question before I answer your question.

As far as attaching an Organization, you would not have over \$130,000.00 in that to save your life. But there is the wrong construction, man. I am making a composite study of it. That is one instance. We could even concede you cost of establishing business, but yet on the other hand, we have this historical study in here. I have got the historical study since 1914.

Q. Is that the historical study, this figure you just referred to? A. That is supposed to be your figure for reproduction new.

There is no depreciation in that.

Q. You have just told me that that figure includes cost of establishing business.

A. That is my understanding, and I got it from the City's expert.

Q. And is that what you were told? A. I got it from his report.

1882 Q. If our Appraisal showed the following items: "Physical Telephone Plant, \$2,672,211.00; Miscellaneous Property, \$64,789.00; Working Capital, \$73,556.00; Cost of Establishing Business, \$562,111.00, a total of \$3,372,667.00" as shown by our Report, to which you have referred, made August 1st, 1914; if that is a fact, then you haven't been furnished with the correct figures, have you?

A. Finish your statement; what is your depreciated condition

there? Tell me that first.

Q. I am merely taking the figures that you use.

A. I know but-

Q. (Interrupting.) You weren't furnished with the other figures?

A. I didn't put those in my figures, my starting figures, and comparative figures. They are not without depreciation.

Q. I haven't that here.

A. Well, get it.

Q. But you have left out \$700,000.00?

A. Yes, and I have left out of my figures all your depreciation value, new.

Q. You have just made a statement that this figure included the

Cost of Establishing business?

A. That is my understanding,—the Two Million,—what is it?
Q. Two Million, Six Hundred Seventy-Two Thousand, Two Hundred and Eleven.

A. It is my understanding

Q. (Interrupting.) And you went on that assumption in fixing this Exhibit?

1883 A. Why certainly I did.

Q. You thought you were getting say, something for Cost of Establishing Business?

A. Not necessarily.

Q. You thought that figures was in there?

A. There is a lot of bunk in these exhibits. That is a very clever invention.

Q. I am not talking about the theory. I am talking about your figures.

A. I don't concede anything until we get to it.

Q. What do you mean when you stated you had included the Cost of Establishing business?

A. I didn't say that. I said that was the Company's valuation

given to me by the City's Engineer.

Q. But you said it included the cost of establishing business?
A. I take it back then; I assumed that it contained all the reason-

A. I take it back then; I assumed that it contained all the reasonable items. I am taking your figures to show a maximum range in this proposition.

Q. But you didn't take our figures?

A. No, apparently not. In that first exhibit that I used, you said it wasn't yours at all. You said there were original marks on it that showed to have been yours but yet you agreed it was yours. Give me the depreciated per cent of your plant.

Q. I haven't got it.
A. Well, I want it.

Q. Didn't you state yesterday that no Telephone Plant was under 92% condition?

A. Well, you don't need an expert in this case. I came in 1884 here as an outsider, and I found—You had already and I ac-

cepted an Inventory of 1914, and accepted your figures, and then added what you put in, and I thought, well, this certainly is a nice composite.

Q. But you thought that you had a real composite, didn't you?

A. And if I wanted to come in here, I wouldn't have taken your figures, if I wanted to come down here and deceive the Court and Commission I could have taken a lower figure, but in order to be fair, I came in here and took your figures, but you don't mention that depreciated condition of your plant. Tell me what that is.

Q. I am discussing your figures,—the figures that you set up.

A. I didn't try to mislead the Court, and I am giving them to you as your figures.

Q. You thought they contained the figures but they didn't.

A. And they looked pretty close to the truth. Bring in your full Company Report, less depreciation, and we will-

Q. (Interrupting.) Did you have any idea that this contained

"Miscellaneous Property" and "Working Capital"?

A. That is no question at all. I asked for the Company's figures for 1914, by their own inventory.

Q. And knowing the Bell System of setting up such things, you

thought everything was in?

A. No, I didn't think anything about it. I merely asked for the Company's figures for 1914. You are putting in things today that you didn't put in fourteen years ago.

Q. We are learning all the time.

A. You bet you are. When I come in here, I merely 1885 asked the City Expert what was the Company's figures in 1914. He handed them to me. I said, I am in a hurry. I said, "What have they spent since that time?"

Q. Well Lyndon evidently thought-

Mr. Howard (interrupting): You can prove that by Mr. Lyndon. Mr. D. A. Frank: Never mind now. This man is on Cross-examination.

Mr. Howard: Mr. Lyndon testified yesterday as to what the base was that Mr. Kelsey picked up and added these additions to, and he testified to Physical Property only. Now, if you have got Going Concern and Cost of Establishing Business, and things of that kind that you want to add-

Mr. D. A. Frank (interrupting): Mr. Howard, I call your attention to the fact that this gentleman is an Expert, and as an Expert, he, of course, knows that his opinion carries weight with the Court. His opinion, if relied upon, might be the means of cutting down several hundred thousand dollars off the valuation of the Company.

Mr. Howard (interrupting): He could not for this reason: He says that he has taken it from company figures. Mr. Lyndon testified that he got those figures of the Physical Property from figures furnished him by the Company, and that they amounted to so much.

Then Mr. Kelsey says that he took those, of course, as found by Mr. Lyndon and has supplemented those figures by the additions to Plant since 1914, and that those things combined

shows certain values.

Mr. D. A. Frank: This witness has stated several times that he took the Company's own reproduction figures as of August 1, 1914, and didn't even subtract anything for depreciation.

A. I believe that.

Q. You believe that, and you are honest in it, and we admit that you are. Therefore, the figures that you set up here need to be corrected by the addition of something for Cost of Establishing Business?

A. It may be partially.

Q. And Miscellaneous Property. You didn't allow anything for Teams and Tools?

A. Oh, yes, unquestionably. Prove that by the other witness. You know I came into this case in a hurry. I didn't have monthly reports.

Q. Now, the monthly reports would have been of the entire Com-

pany?

A. I know, but if I had seen those, I would have tried-

Q. (Interrupting.) You know you weren't under any compul-

sion to go on the stand when you did?

A. I know, but I can go on long enough to lay the foundation.

What we are after is the truth. Now, put all your Cost of Establishing business in there and then tell me what the engineers found by inspection was the value of your property at that time.

Q. Your figures, if the figures given you by Mr. Lyndon included nothing except the Physical Telephone Plant and didn't have anything for Office Furniture & Fixtures, didn't have anything for General Store Equipment, or Teams and Vehicles, Tools, or Supplies, or Working Capital, or Cost of Establishing Business, oughtn't there be some change in your figures to account for those items?

A. I would love to have that complete statement of your valua-

tion less depreciation, and I will tell you the fact.

Q. Just answer my question.

A. I have answered it.

Q. Should there or should there not be a correction in your figures on that account?

A. Oh, I expect to make a correction in two or three figures, before I get done.

Q. I want the question answered.

The Master: Just answer the question.

Q. Oughtn't those figures to be corrected by the addition of those items?

A. Every figure is subject to correction.

Q. You haven't answered my question. Wouldn't it be easier for you to say that this figure ought to be corrected?

A. Well, I don't know, from some of your questions.

Q. You haven't answered my question yet. I hate to be insistent.

1888 A. An Irishman don't know how to answer the question.

Q. The question is simply this: If certain items which I have detailed were not included by Mr. Lyndon in giving you the Appraisal of the property as of August 1, 1914, and you have based your figures on the bare physical plant, shouldn't your figures be corrected to show that?

A. Why, yes.

(By Mr. Howard:)

Q. And these were erroneously admitted, you don't claim they should be added unless they were properly—

A. (Interrupting.) Why no, I want to study those figures.

The Master: He said yes.

Q. He said yes.

Mr. Howard: Now, Mr. Frank, just so we won't be proceeding along wrong theories, to get at that, we should know that he has taken for the base of his computations certain figures which he says were furnished to him as figures of the Company, showing the Physical Values of this plant, and you say it has omitted Office Furniture and Equipment, Tools, and things like that, we ought to know it.

Mr. D. A. Frank: Mr. Lyndon knows it.

Mr. Howard: Did you omit Office Furniture & Fixtures and Tools? I thought you made that clear that you based your reproduction upon figures furnished to you by them in 1914.

Mr. D. A. Frank: We will go on while Mr. Lyndon looks

1889 at it.

Mr. Kelsey: Can I excuse the witness and suggest to you, Judge, that we ought to have that total sheet that entire exhibit, less depreciation. I am not trying to deceive the Court, or deceive the

ease. We have to have what we have. I want all that,

Mr. Howard: Now, Mr. Frank, we found this list here that Mr. Kelsey used and furnished by Mr. Lyndon. We would like to have it in the record. (Reading): Real Estate Buildings, Central Office Equipment, Substations, Pole-Lines, Aerial Cables, Aerial Wires, Underground Conduits, Underground Cables, Furniture & Fixtures, Supplies in Stock, Tools, Teams & Vehicles.

Mr. D. A. Frank: What are you reading from, Mr. Howard?
Mr. Howard: I am reading from the statement of the Physical
Properties upon this Reproduction of 1914.

Mr. D. A. Frank: Whose statement is it?

Mr. Howard: I understand were these furnished to you, were they?

Mr. Lyndon: Those were the reproduction figures which I made at the time, and the reproduction figures which the Company submitted covered these same items.

(By Mr. D. A. Frank:)

Q. Then this entire statement is founded on Mr. Lyndon's report, then, Mr. Kelsey?

A. Well, I am not a judge of that matter at all. You give

me your report and I-

Q. (Interrupting.) You have worked only on the figures which Mr. Lyndon gave you—

A. (Interrupting.) Merely from information—my information was this was the Company's report for the 1914 inventory.

Q. So that this is not as happy a situation as you have assumed?
A. I am not at all discouraged about it. I have granted you that, that we had a happy situation in this town—

(By Mr. Howard:)

Q. Just a moment, Mr. Kelsey, these figures that were got in there—did you get those figures?

A. No, I left them there with you, Judge.

Q. Well, I don't want them, Mr. Kelsey. If you will let Mr. Kelsey know what the figures are that you have got, and what they included, just state what page that is on in that report, because that has been offered in evidence.

Mr. Lyndon: The list of items is on page 183, of the 1914 Report of Lyndon & Elrod, on Telephone Service and Rates in the City of Houston; also the Lyndon and Elrod valuation of those items is given on Page 183; the Company's valuation of those same items is given on Page 183.

(By Mr. D. A. Frank:)

Q. Is that a Company Report?

A. No, it is-

Mr. Howard (interrupting): It was testified by Mr. Lyndon yesterday that he is showing in there the the figures that he spelied, that he got from competitive prices, and there is also a set up on the prices furnished by the company on that date and he shows both those things.

Mr. D. A. Frank: We are not talking about any of those things

at all, Mr. Kelsey.

Mr. Howard: You are asking the witness; you are trying to make it appear that the basis of this witness' computations are incorrect.

Mr. D. A. Frank: They are incorrect.

Mr. Howard: Now, we are saying that they include only the Physical Properties, but they do include all the Physical Properties, and as shown by your figures furnished to the engineer, Lyndon, at that time. Now, we want to get that statement as a basis of this computation, that the Company's inventory shows the total cost.

Mr. D. A. Frank: Now, you are reading from-

Mr. Howard: I am reading from page 299 of Mr. Lyndon's Report furnished this witness, upon which he bases his figures.

M. D. A. Frank: That's the idea.

Mr. Howard: 299 of the Lyndon Report of 1914, isn't it, Mr. Lyndon?

Mr. Lyndon: Yes.

1892 Mr. Howard: The Company's inventory shows the total cost of Physical Properties, including Real Estate and Buildings, to be Two Million, Three Hundred and Twenty-six Thousand Nine Hundred and Forty Follars, exclusive of these additional charges. Now, the additional charges are referred to in the preceding paragraph, and they consist of the Actual Physical Cost of the Purchased Property, Purchase of Apparatus and Supplies, and Labor and Overhead Expenses, but they don't include the items of Engineering, Errors and Omissions, Interest and Taxes, Interest dur-

ing construction and other minor charges. Now, according to the Company's computations, the total amount of all these additional charges properly applied to the different items amounts to \$345, 271.00, giving as the total Physical Value of the plant, \$2,672, 211.00.

Mr. D. A. Frank: Just exactly what I said.

Mr. Howard: All right.

Mr. D. A. Frank: Nothing for the Cost of Establishing Business?

Mr. Howard: Nothing for the Cost of Establishing Business, that is conceded.

Mr. D. A. Frank: Nothing for Miscellaneous Property and nothing for Working Capital?

Mr. Howard: Nothing for what?

Mr. D. A. Frank: Miscellaneous Property.

1893 Mr. Howard: I don't know whether you have got any of that or not.

Mr. D. A. Frank: That is just Physical Telephone Property.

(By Mr. D. A. Frank:)

Q. So that, if that Report shows Seven Hundred Thousand Dollars more, at least, Mr. Kelsey, it was a Report that wasn't submitted to you?

A. I would like to see the Report.

Q. Well, it wasn't submitted to you.

A. I haven't seen, as you say, your Company's Report. I want to

see it with your deductions for depreciations.

Q. That is a different proposition. We have your Exhibit here that you are dealing with and the Court has the right not to be experimented with.

A. That may be true, but when you haven't the weapons to work

with-

1894

Mr. Howard: We are not experimenting. We put in the figures in a segregated manner. We are not contending that they include a lot of intangibles that you are claiming.

Q. Mr. Kelsey, a reproduction figure for plant would have to be a reproduction of the plant and attached business, wouldn't it?

A. Well, assumed for the moment, yes.

Q. Well, let's not assume it; isn't it a fact?

A. Yes, the reproduction figure is quite true.

Q. You have added to that for some-

A. (Interrupting.) Oh, yes, for some of the cost.

Q. You answered Colonel Chipley, in the Enid Case, on page 469, where he says: "I will ask you, Mr. Kelsey, whether or not you speak of a reproduction which would include the reproduction value of the plant as a going concern?" And you answered that is correct.

A. Going concerns are worth more than standing concerns.

Q. You would answer yes, to that question now, wouldn't you?

A. Yes, as a reasonable Cost of the Business.

Q. So that the figure that you have for total of the property on page 1 of your Exhibit, would have to be revised, wouldn't it, Mr. Kelsey?

A. I expected to. I told you there were some items in that that I only temporarily used in the first place, I warned you and the

Court too, that there were temporary figures in there.

Mr. Howard: He has allowed that $4\frac{1}{2}\%$ that he says too that he thinks should be revised.

A. Yes, temporarily.

Mr. Howard: That hasn't got anything to do with that, but it has something to do with his figures.

A. I can straighten this situation out very readily and

1895 quickly.

Q. Do you know where you got these figures? Do you know what figures these are that you have at the top of the page, of page 1, of your Exhibit, where you say "Exchange Rental, \$880,-439.28?"

A. That is in your Exhibit.

Q. You are trying to find out something by this set-up, aren't you?

A. Yes, what the Company took in during the year,-what they

spent during the year.

Q. You are trying to find out what the Company spent and what it took in during 1919, so that you could tell what it would take in and what it would spend in 1920, aren't you?

A. No, I am not interested at all in what happens in 1920.

Q. Aren't you interested at all in what the Company's income would be under the present rates?

A. I am not considering that at all.

I had this set-up, because it was the only one within my reach to analyze. The Court would be interested in hearing what the Company took in last year, because that is what they took in under the rates, under the existing conditions. As to why the Court would be interested in it unless it wanted to find out what would be produced in the coming year isn't the issue at all. It is reasonable to assume that if the Company made a profit, that the next year they would. I was not informed that the conditions were the same; there

has been a change. I would not assume that the conditions 1896 have been the same in 1919 that they would be in 1920,—

not at all. I know that this \$880,000.00 of Exchange Rental was produced by a rate which was in effect which was materially higher than the rate that is now in effect; that is subject to correction in there.

If the deduction would amount to something like \$250,000.00 per year, my total net down here under Receipts Applicable to Dividends would not also have to be cut down, you could average that out; it would not have to be changed in that respect. I don't think your rate would amount to \$250,000.00. I do not know how much it would amount to, in the light of information—we have got to come in here and ask you for it. I did not undertake to enlighten

the Court; I said these were temporary figures, and warned this Court

and you of that, because I didn't have the books.

All of my testimony is not temporary testimony, it is leading to the facts; all we ask you for is the facts. When I get different facts, my testimony would not be different, facts is facts. If you were denied a rate the latter part of the year and you don't get it, this year, of course, that is subject to adjustment. I was not told what the rates are. I don't know anything about the rates. I didn't even inquire into the rates. I analyzed this sheet when it was given to me. I am perfectly satisfied that those figures are just about right.

Q. Even though the Exchange Rental here may be too high?

A. Oh, no, I am not talking about the earnings, Mr. Frank, 1897 I am talking about the Value of the Plant. There is a question mark about your earnings in there.

Q. What is your idea about confiscation?

Mr. Howard: I would like at this time, so that the Court will understand the purposes of this exhibit; Your Honor will recall it was stated by Mr. Kelsey it was put in here merely as illustrative. Now, he has got a certain thing in here 41/2%. He said he thought that was subject to change. Now, it may appear here in adding up the revenue for 1919 that the revenues are somewhat out of the ordinary on account of the fact that the Company collected a higher rate for the part of the year. Now, this is put in as illustrative largely of his manner of handling the proposition and carries it on down to certain computations there for the purpose of showing that they had the knowledge that he thought he was entitled to have as to what the entire earnings of the Company were, not the entire earnings, but entire investment and plant values, so that he could make the proper apportionment in regard to the Long Distance toll'lines. A part of this should be added to the Plant value that he set up and illustrates how it would be arrived at upon that basis. with the statement that individual items here, many of them and perhaps all of them, may be subject to change, but only illustrative of the contention that he is making, that this toll situation should be handled in a different way than the Company is undertaking to handle.

Mr. J. D. Frank: He is not undertaking to testify as to 1898

the value of the property then.

Mr. Howard: Oh, yes, this thing Mr. Frank is talking about now, has nothing to do with the value of the property. He is talking to him about the rate, and about the operating expenses, and about the gross income. He had told you all he knows about the value, that he took certain figures that were set up as Company figures, so stated to him to be Company figures, in 1914, showing a certain Physical Value of this Plant, including Stores & Supplies, and many other things, and that he has added to that the additions since that time, and he said that is a good composite,-a fair evidence of the value of the Plant. That part is very clear.

Mr. Duls: He admits he hasn't got all the figures in there.

· Mr. Howard: He states that he has all the Physical Plant Values. Now, as to whether you all can come on and tack on a Million or Two Million of intangibles and things that are distinguishable from Physical Values, is a further question that is not undertaken to be covered by this illustration, illustrative set-up that he has set up here.

Mr. D. A. Frank: This is just an experiment?

Mr. Howard: It is just what I said it is. If you followed me---

1899 Mr. D. A. Frank (interrupting): It is not necessary to state it over.

Mr. Howard: That is illustrative of the manner in which this proposition should be handled, that in addition to the Plant Values, as they exist here and what you term the Loal Exchange, there should be added the proportionate part of the toll investment, which would swell the values. He don't undertake to give you a value there complete. It is only the value that has been set up by you and he proposes to add more to that in the way of Physical Property, in the way of Toll Lines, and he proposes further that he should receive the earnings of that Toll Line in their proper proportion and he has put that in as merely illustrative of the manner of handling and as many of these items here, like the $4\frac{1}{2}\%$ he says that is questionable whether you should be allowed that

Mr. Howard: I haven't talked to you with any idea of arousing your antagonism. I am talking to you with the thought that maybe you would pursue this inquiry when it is told to you that this illustrative exhibit is not, and does not, purport to be sustained as an actual proven fact.

Mr. D. A. Frank: Are you through?

Mr. Howard: Well, you may go on for two hours, but I don't think it should be followed up.

Q. Mr. Kelsey, you are on the stand, did you at that time think this was a temporary exhibit?

A. Yes, I propose to have a final exhibit.

Q. You didn't state that on Direct Examination?

A. I made it plain all the way through in this case that I had certain things lacking in this case that I missed, and when I get done my last Exhibit will be——

Q. (Interrupting.) You have only one blank on this page.

A. Two blanks.

Q. Well, you have got two blanks. One is the total or a toll value?
A. Toll value and the percentage, the only question applied is whether the value of Four Million, that is confiscation or not.

Q. That is the question I want to repeat, just tell me your idea of how confiscation enters into it, what is your idea of confiscation?

A. If a valuation of anything under Four Million is put on your property, I would be inclined to think you are losing something.

Q. Well, Mr. Kelsey, I just wanted to get your idea for the record.

Is it your idea that the question of confiscation depends on the question of valuation put on it by the Court?

A. My idea of confiscation is whether or not you lose a nickle in

the transaction of your actual investment.

Q. But, Mr. Kelsey, we are not going to lose the place, 1901 are we?

A. No. no.

Q. Then the real question of confiscation is the question of how

much we get for rates?

- A. No, no, that comes in later, when I give you my final in this proposition. I can't give you a final proposition until I get all the stuff to analyze it with. You come at me and try to show that your production value of 1919 was higher than it was after I got it, less depreciation. I am willing to answer it.
- Q. (Interrupting.) I just wanted your opinion. You are acting as a lawyer and I wanted to know your opinion. Now, your Exchange Rental of \$880,000.00, as you say, is the figure for 1919?

A. You kept that money didn't you? That is the money you

took in.

Q. I am not arguing with you.

A. I am not arguing. That is a question. Did they keep the money that was the Income for that year?

Q. That was the Income for the year 1919? A. Yes.

Q. Now, in order to assist this Court to find what the present rates would produce, you couldn't use that figure, could you?

1902 A. I propose before I get through with this case to have a figure in here that will show the Court what I think.

Q. Answer the question.

A. I have.

Q. It wouldn't be fair to use that figure, would it?

A. What is the question?

Q. (The question was thereupon read to the witness.)

A. No.

Q. If this amount is incorrect, then you are going to assume-A. (Interrupting.) You and I can talk a week on this.

Q. I think we can, but we wont. Now, the second item is \$441,

029.60 that is the Commissions?

A. That is your Receipts of going into the Southwestern points. If you have got any Tolls in there that don't go to the Southwestern points, or go to Texas, you have got a right to deduct those. How could we tell?

Q. How could we tell?

A. You keep the books and you have got the momey in your pockets all the time.

Q. You took the total figures?

A. No. no. I have the 25% of course.

Q. You know how much of this went to the Telephone Companies with which we connected in the State of Texas?

A. I can soon find out. That is the money that you got and when

I get to your books-

Q. (Interrupting.) Do you know how much has gone?
A. (Interrupting.) I don't know anything about it. How 1903 can I tell this Court, or anybody else? Guess at your books? The Southwestern business you originate in this town belongs to this

Q. How does it belong to this town, Mr. Kelsev.

A. Because all the business which originates in Dallas Exchange belongs to Dallas.

Q. Well, now, give us the authority for that statement. A. That is my authority.

Q. You are the authority? A. Yes, what else?

Q. Is there any Court or Commission in the world that has ever decided with you on that proposition?

A. I don't know.

Q. Now, Mr. Kelsey, let's assume, let's make another assumption here. Let's assume that this \$880,000.00 is a correct figure for Exchange Rental and that \$440,000.00 of toll, that would be just half as much, wouldn't it, for toll, as for Exchange?

A. Yes.

Q. And you want to put the two together and say that that is the amount of money that is applicable to the Houston Exchange?

A. Yes, that's the receipts of Houston.

Q. That's the receipts of Houston. Now, in order to find the property that this is applicable to, you would have to take all of the Exchange property in the City of Houston and a 1904 certain proportion of the Toll Property in the entire state?

A. Yes.

Q. That is true, isn't it?

A. That is.

Q. How would you proportion the toll property in the State?

A. Well, I am going to have composite—I have got to study your pro rata of the expense you have got loaded in Houston. You have got Houston loaded with practically \$120,000.00 of expenses here that I don't know what it is.

Q. Are you going to divide it on the basis of Expense?

A. Not yet. I am going to wait and see. Not until I see the books.

Q. Are you going to wait and see what result you are going to get before you decide?

A. No, I haven't yet. I never fool myself that way.

Q. Name some of the ways in which you might divide the Toll Property of the State. A. You show me the books. You don't know how, I don't know

64 - 219

how I am going to take care of the proportion until I make a study

of this situation.

Q. Now, let's see, Mr. Kelsey, you could divide the toll property of the State on the basis of the proportionate part of the entire property as found by loading the Houston Exchange property with all the property in the State, couldn't you?

A. Oh, I presume so.

Q. Now, you could divide it on the basis of the proportion of the entire expenses in the State as compared with the entire expenses in the City of Houston, could you?

A. Well, it could be, I suppose.

Q. Now, there are four different ways of dividing and allocating the Toll Property in this State, to the City of Houston, which one of those do you intend to follow?

A. I don't know.

Mr. Howard: Why don't you get him those Reports that he asked for?

Mr. D. A. Frank: He doesn't have to have a Report to answer a question.

Mr. Howard: I think he is entitled to it. He has asked for them.

A. (continued). Show me the books.

Q. Does your answer depend,—does your system depend on what the answer would be?

A. I want to know on what basis you do all your allocating. Then I am going to—I don't propose at this time to say what I am going to do about that allocation.

Q. Can you tell the Court at this time what would be a fair

way of-

A. (Interrupting.) No.

Q. Now, Mr. Kelsey, have you ever done this anywhere else?

A. I presume so; I don't remember.

Q. Why, Mr. Kelsey, is it possible that an Expert like you wouldn't remember having done so important a thing as this 1906 in another case?

A. Well, it may be. I am pretty busy, you know, and I don't keep all those things in my mind. You dig up records here that I had forgotten,—that I didn't know existed. I wish you would refresh me on those things.

Q. As a matter of fact, you have seen 25% of the total Tolls allowed to the Exchange, that has been customary everywhere?

A. Oh, yes, they make a contract between themselves, you know. Q. That has been customary for twenty years, hasn't it?

A. Not necessarily. Here's the theory, as I told you before: When we first went into the Telephone Business, the man who originized took 25%, the man who terminated took 10, and the fellow between, they had the mileage division.

Q. The 35% that you are talking about was where one or both

owned some of the tolls?

A. It doesn't matter who owns it. Q. Some owned some toll lines?

A. Not necessarily. Pretty nearly everybody wanted their own

toll lines.

Q. Well, let's take a parallel case to this, and take a case where a company operating a local exchange is doing a long distance business with another line; now 25% to the exchange is a usual and customary thing?

A. 10% of the incoming would be the old arrangement.

Q. 10% of the incoming and 25—

A. (Interrupting.) No, no, the Bell Company began to connect up with these Companies and they were so glad to do it—

Q. (Interrupting.) What do you mean by saying they

907 were so glad to connect with them?

A. Getting the long distance connection. They thought

Q. (Interrupting.) Does it make any difference anyway?

A. No.

Q. Is it worth anything at all to a local exchange?

A. No, it is a liability, almost.

Q. A liability?

A. Yes, sir.

Q. Have you always been of that opinion?

A. Absolutely.

Q. How many lines are there around Houston, do you know?

A. No.

Q. Would you be surprised if I were to say that there were fifty lines going out of Houston?

A. I wouldn't be surprised. Judging from the pay-roll, you have

got a number of lines here.

Q. Suppose there were one hundred and forty, would that be about right?

A. I don't know.

Q. There are 17 railroads, and there are usually lines running out the railroads. It wouldn't be out of reason to say there are 30 lines running out of Houston?

A. I can't give you any idea until I know. I don't know your

business at all.

Q. Let's assume that there were 30 lines running out of Houston would it hurt the Local Exchange to have one of those lines cut out?

A. Well, not on the 25% basis. They are losing money

1908 on that proposition as it stands.

Q. Would it hurt the exchange to have half of them cut out?

A. They would probably make more money by losing them under those contracts. You are speaking now of the benefits of the toll, are you? Are you going to argue that long distance is a—

Q. (Interrupting.) Would it hurt the Local Exchange to have

all the long distance lines cut?

A. Well, I don't think it would hurt it materially, because 97% of the calls, as a rule, are handled around right in center.

Q. Don't you know that a lot of people wouldn't take local service unless they had long distance lines?

A. No.

Q. Don't you know that in building up an exchange of 27,000 stations that necessarily a great many people wouldn't have taken-

A. (Interrupting.) You can't conceive of a situation whereby a man wants the long distance telephone and not the local connections. Look here, communities with a thousand grew up without any toll lines. The Duluth Telephone Company got along well without the long distance lines, and Minneapolis and Saint Paul.

Q. Mr. Kelsey, suppose we had some lines out of here, from here to Beaumont,-you know where Beaumont is, don't you,-pretty

good little town over in East Texas?

A. I suppose so.

Q. Now, suppose that was owned by the Texas Long Distance Company, and they were to cut off connection entirely with our exchange here, and we had a contract, wouldn't we be damaged by cutting off those lines?

A. Well, you got many a toll line which is an independent com-

Q. That don't answer my question: Wouldn't we be damaged?

Q. Probably save money on the basis of 25%?

A. Yes, it is costing this property, the time you count every item that goes into it, a good deal more.

Q. Couldn't you undertake to valuate what we would lose on a contract of that kind?

A. No.

Q. Wouldn't you undertake to say what the line to Beaumont would be worth from this exchange?

A. You are not dealing with a philanthropic proposition. You

are dealing with actual figures.

Q. I am asking you as a telephone expert, you couldn't undertake to valuate the services that we would lose by having the lines cut

from here to Beaumont?

A. You wouldn't lose anything. It would be convenient to some people. They use the telegraph. It is better sometimes. The cry of no toll lines has been one of the factors of independent life, and I never did find that it hurts any.

Q. Have you always been of the opinion that the long distance lines wouldn't add anything to the value of the local exchange?

A. Why certainly not. Why would they?

1910 Q. Well, I am asking you, Mr. Kelsey.

A. It is the local exchange that add value to the toll lines What toll lines would be worth 5 cents that terminate at a jack rabbit hole, or what is Houston worth as a terminal,-what is Dallas worth as a terminal? Your terminals make the toll lines. Your toll lines don't make the terminals.

Q. I want to be fair with you, Mr. Kelsev.

A. You have got to be.

Q. Haven't you been of the opinion that the toll line was worth a great deal to the local exchange?

A. No, I never knew that you were philanthropic in your Charter.

Q. I am not talking about me. I am talking about the Telephone Plants.

A. I am talking about your company.

Q. Havec't you been of the opinion that the connection with the long distance lines is very valuable to your local exchange?

A. Take the Peoples; licked the life out of us and we had all the

toll lines and they didn't have any.

Q. What year was that?

A. That was 1898. You will find an awful story. Minneapolis Tri-State licked the Northwestern Indianapolis and didn't have any long distance lines to Chicago.

Q. You are perfectly sure of that?

A. Yes, the only reason I had to build a long distance line from Fargo to Glendive was to connect up and make our terminals worth something, that make the toll lines as much as it does.

Q. If there were competing exchanges and the two exchanges were trying to get as many toll subscribers as possible, wouldn't the one that had the long distance connections get the greatest amount of business?

A. That has never been demonstrated.

Q. Haven't you ever attempted to demonstrate it?

A. Oh, yes.

Q. Have you ever testified to it in any case?

- A. I don't know. You seem to have a lot of records here. Spring them.
- Q. Mr. Kelsey, you stated positively that you have never testified that it was worth anything to a local exchange to have a long distance connection?

A. Oh, not positively. I insist that that is my opinion.

Q. That is your opinion. You remember the case of the Memphis Telephone Company against the Southwestern Telegraph and Telephone Company?

A. Yes, where they cut the lines. Q. You remember that case?

- Q. Just to refresh your memory, in order to keep from reading some from the record to get the facts before you, that was a case in which the Memphis Telephone Company built a line 28 miles long out of Memphis for a connection with a little independent telephone company that operated up in Arkansas,-up into the Mississippi River Bottoms?
 - A. That was the Osceola? Q. Osceola Company?

A. Yes.

Q. The line cost \$8,800.00, and a contract was made between the Memphis Telephone Company and the Osceola Company, and the Southwestern Company,-this same Company that's here in this present case?

A. Oh, no, no, the Cumberland.

Q. No, sir, I beg your pardon, it was the Southwestern Telegraph and Telephone Company.

A. It was Leland Hume that cut the wires,-Leland Hume's people.

Q. But the Southwestern Company purchased the Osceola?

A. From a man named Ross.

Q. The line cost \$8,800.00, the line was cut, it consisted of one circuit of copper wire and one circuit of iron wire. You testified as a witness for the Memphis Telephone Company, the contract provided for a twenty-five year connection, and provided that for the use of this twenty-eight miles of long distance circuit and the operating of the local in Memphis, the Memphis Telephone Company would get 17½% of the total tolls out of Memphis. You testified in that case on behalf of the Memphis Telephone Company that the gross business that would be done over that line for a period of twenty-five years would be \$883,500.00 and that 17½% of that would amount to \$154,612.50, and that the business could be handled for one-third, which would leave a profit to the Memphis Telephone Company of \$111,875.00?

A. That is the Memphis Long Distance, isn't it?

Q. No, the Memphis Telephone Company.

A. No, that was a separate—

Q. It was a local telephone company.

A. I remember the case, but that was a separate line, jointly owned by Ross and by Short, they called the Memphis Long Distance.

Q. This particular Plaintiff in this case was a local telephone com-

pany and not the Memphis Long Distance Company.

A. Yes, I think they owned the stock in that little concern, though. Q. You remember the case, do you?

A. Not clearly, what year was it?

Q. This was July 23, 1912. Now, Mr. Kelsey, while you were testifying you made this statement:

"I feel that there is another item here that is more or less just; it isn't so large. It's the loss in revenue due to subscribers that this company can't get owing to that loss of service. It's possible that the Home Company can get a telephone in a business house, but it gives the Bell Company the advantage of all the P. B. X Service and makes the travelingmen and their representatives more or less lean to the Bell Company or companies that they—

Q. What do you mean by P. B. X service?

A. That's the telephone scattered throughout the business houses.

Mr. Chipley: Private Branch Exchange.

Witness: Private Branch Exchange. It gives them that advantage. I have estimated that on a more or less progressive scale, based on growth of telephone business. The growth has been tremendous all the way through, and I have divided that into five periods. The first period of five years, a loss of business service average 50 telephones at \$54.00; 50 residence telephones at \$30.00;

making a total the first five years—I mean the—making a total per year of \$4,200.00. Now, then, from my experience, and from the experience here, they can operate their rental

stations for about 50%. That leaves a net loss to this Company of \$2,100.00 a year, for the first five years, or, \$10,500.00. The second epoch, five to ten years, I figure on an average 75 business telephones and 75 residence telephones. That totals \$6,275.00. Half of that is net, \$3, 1—let's see. Five years (figures) that would be a loss the second epoch of \$15,637.00. The third period I figure 100 business telephones—the equivalent of 100, and 100 residences, making a total of \$8,400.00; 50% would be \$4,200; for a period of five years would be \$21,000. The fourth period, I figure 125,—the equivalent of 125 business phones, and 125 residence, making a total actual loss of \$10,500.00. That would be a net loss of \$5,250.00 a year or, for the period, \$26,150.00. I have made no change for the fifth period, leaving it \$26,150.00. That makes a total of \$99,487.00.

Q. That is for the whole 25 year period?

A. Yes, for rental losses."

Now, Mr. Kelsey, that was your testimony in the Memphis case, was it?

A. Read further Mr. Chipley's suggestion there that the figures don't lie, but liars can figure.

Q. Just find it.

A. Well, it probably didn't go in the record. Well, what was the decision in that case? What was the damage finally given? Enlighten the Court, clear on through.

Q. That was your answer. That was your testimony in that case?

A. In that case, yes, that was a local issue.

1915 Q. And there you testified to \$250,000.00 damages for cutting off that particular line.

A. A very bitter fight on at that time. There's a local condition that aggravated that thing clear through.

Q. This was your testimony in the case, was it?

A. All this based on local issue.

Q. Do you change your testimony on account of the issue in the case?

A. Well, every telephone problem has its local issues.

Q. You change your opinion-

A. Not opinion at all. Here was a little town where these two companies jointly owned those lines. The Cumberland Company cut those wires. This was uncalled for. There was a reason for that. The Southwestern was not in that case so much.

Q. You testified and the Plaintiff testified that the Company was

damaged \$250,000.00 by cutting off two of the toll lines?

A. That's all right. Suppose you cut off Beaumont. You lose your tolls, don't you?

Q. That would average \$10,000.00 per year, wouldn't it?

A. Yes.

Q. And that would be \$5,000.00 per line?

A. Yes.

Q. Now, if there are 30 lines entering or coming into Houston on your testimony in the Memphis case, the local exchange would be damaged \$600,000.00 a year?

A. You go on the 100% theory?

Q. No, on the 17½% theory, weren't they?

A. That is on mileage. There is no question but what if 1916 we cut out the Beaumont and additional lines, you would lose the total revenue that you have got there.

Q. The Memphis Telephone Company in that case had 3,000 tele-

phones in Memphis, didn't they ?

A. Yes.

Q. It also owned 28 miles out?

A. Of this important line.

Q. Of this important line. The cutting of that line deprived the Memphis Telephone Company of two things?

A. The revenue. It deprived you in this town.

Q. Of the toll revenue, and also the additional local revenue that they would get in order to talk to that part of Arkansas?

A. Yes, that is true.
Q. That is what you testified?
A. That looks reasonable.

Q. That looks reasonable. Now, a little line to a sparsely settled portion of Arkansas-

A. (Interrupting.) No, that was a profitable line. That was one

of the most miraculous-

Q. (Interrupting.) You didn't know it, but I tried the case and I carried the case up?

A. Yes, it went on up.

Q. Have you a curiosity to know what the Court found?

A. Yes, that is what I would like to know.

Q. You testified that the damage would be \$250,000.00?

A. Yes, and what did the Court find?

Q. The Court found \$3,300.00. That was about 1% right. 1917 Your figures were about 98% wrong.

Mr. Howard: The Court practically held just the opposite of what you are contending here.

A. If you cut the long distance lines out of this town, you certainly would lose the revenue, and you would make less of local You are not charged for anything you lost. Are you trying to ascribe that the long distance lines, of course, threw a loss to the town; and it wouldn't appear in your statement either, would it?

Mr. Howard: If you would continue to cut these long distance lines, it would destroy the exchange.

Mr. D. A. Frank: I am not on the stand. This gentleman is on the stand and he is an expert.

Q. You testified there in a little exchange of 3,000 stations that the cutting of two long distance lines coming in there would damage that property at the rate of Four Thousand Dollars a year?

A. There was a line that was shooting through messages awful swift and fast. Why not enlighten us completely on how much that

was. It is a loss.

Q. Your statement was it would produce \$880,000.00 in the 25 years, and that 171/2% of that would go to the local exchange?

A. I knew, but all that is reflected in your annual reports and in your books, and what you take in and what you don't take in.

Q. \$883,500.00. 1918

A. If you didn't take that in, you wouldn't take it in, Mr. What's that got to do with this case?

Q. You divided the damages between the loss of tolls, loss of local

exchange revenue, didn't you?

A. Yes, that was a very natural thing to do, they were losing.

Q. In the course of 25 years, you contended that there would be

\$250,000.00 damages?

A. There would be that much deflection in earning. If you didn't have any long distance lines here you wouldn't have any earnings in your sheet at all.

Q. You did divide the damages in that case, didn't you?

A. That was 8 years ago. You know I have learned a lot about terminal values since then. We all have.

Q. You are prepared to change your ideas now?

A. We changed our ideas about warfare about 30 days after the German warfare, didn't we?

Q. I have no quarrel with anybody.

A. That bears on this proposition. Of course, if you did cut the toll lines, you would lose the revenue.

Q. You would lose what revenue?

A. The toll revenue.

Mr. Howard: Just a minute. I want to understand what we are talking about. Is the contention here that all this loss came from toll revenues? Is there any testimony in here that any subscriber would discontinue because they couldn't get the long distance lines?

Mr. D. A. Frank: Mr. Kelsey is testifying, and he said it wasn't worth a dollar to the local exchange to be connected 1919

with long distance lines.

Mr. Howard: After you read all that stuff into the record, then it turns out that they are testifying entirely about toll lines.

Mr. D. A. Frank: Not only is your statement inaccurate but it has a very vital applicability to the facts in this case.

Q. Didn't you get that about the loss of those stations?

A. Well, if they lost those stations, they would lose the revenue and-

Q. (Interrupting.) You testified in that case?

A. Well, I presume I did. You seem to have the goods on me. Q. Your lost subscribers and your lost revenue, what has that got to do with this case?

Q. You testified in that case-

A. (Interrupting.) If you are trying to make out that the toll

lines are of value, you are creating an opinion proposition.

Q. You testified in that case that it was worth \$95,000.00 deflection of local earnings of toll, because of the fact that they didn't have connection with some sparsely settled towns in Arkansas. There was two of those lines, and you allocated \$99,000.00 in 25 years. That would be Two Thousand Dollars.

A. For what?

1920 Q. For loss of exchange revenue.

A. Well, that appears in their annual statement, doesn't it? Why don't you—what you don't earn, you don't put on your books.

Q. Your testimony was that the local exchange would lose that

much local revenue?

A. Why certainly. We might lose it. What has that got to do with this case. We have got an actual record of the money taken in and if we lost the Beaumont line and the Galveston line, and the chances are that next year these fellows might take their line out, and we might lose the revenue. If you don't take it in, I don't know how the dickens you can be credited with it.

Q. Has this city a high development rate?

A. I understand 10% is very good.

Q. It is more than 10% here.

A. Up North, those towns have one-fourth, between one-fourth and one-fifth.

Q. If they have 27,000 subscribers and there is 160,000 people, that would be pretty good development?

A. Well, you have a lot of colored people here.

Q. That would tend to cut it down.

Q. Well, suppose we wanted to hire a man and he made us 1921 a price of engineering a plant, and we made it six per cent, would you say that is reasonable?

A. You are not making the witness a proposition?

Q. No, you-

A. (Interrupting.) It all depends on how large the engineer was, how much he needed the business. Those prices are competitive, just like anything else.

Q. If he made a price of six per cent, would you consider that rea-

sonable?

A. Well, he would do pretty well on that.

(By the Master:)

Q. What is the answer, Mr. Kelsey, is it, or is it not reasonable?

A. Well. I presume it is, Judge. The intent of his question is this: All these engineering conditions are taken on what the engineer is willing to do it for.

Q. I understand, but in your judgment it's reasonable or unreason-

able?

A. If he could get six per cent he would have a nice contract. If you want to follow that down according to size, if it is not a large plant, he would have to scale down his percentage, if he has a large plant, he would have——

Q. (Interrupting.) It is owing to the size of the job?

A. What is the use of arguing? Not with you, Judge, but six per cent, is what they all like to get, if they can.

Q. Well, you referred to your testimony in the Birmingham case, and I just noticed in there a question was asked you, "What about engineering?" And you answered, "Six per cent engineering is put on there, on the basis that the average engineer's fee is six per cent."

Q. That is fair isn't it? That's fair, isn't it?

A. It looks all right.

Q. Now, what would a consulting engineer on a plant, if you were starting a plant and had to have a consulting engineer, what fee would be proper?

A. I don't know. I have never charged any fee. In our business we had to help all these fellows for nothing in order to sell them

the switch-board.

Q. Well, now, you have known as high as fifteen per cent being paid?

A. I never heard of it.

Q. Well, Mr. Kelsey, you be sure now.

A. Well, you have got the record. You remind me if I am wrong

and I will admit it if I am.

Q. You say you never heard of a fee of fifteen per cent, being charged?

A. Not that I know of.

Q. Have you ever testified there was a fee of 15% charged? A. I don't recall. Let me have it and see what it was. I didn't know I was in a memory contest.

Q. You aren't, Mr. Kelsey.

Mr. Howard: Are you contending here, Mr. Frank, that you paid any such prices or that you paid six per cent outside?

Mr. D. A. Frank: I want to show the reasonableness of our engineering fees, and this gentleman is an expert on it.

Q. In the Enid Case, you testified to 10% for an engineering fee and on cross-examination, when you were asked by the Attorney General of Oklahoma, how much was that consulting Engineer's work, didn't you answer: "Mr. Ledley, St. Louis, charged 15% for engineer's services?"

A. In what?

Q. I don't know.

A. I don't know myself. I heard that Ledley was in the concern. Q. So that you have heard of some engineer charging 15%?

A. Is there anything in this record that I have disputed any six per cent?

Q. Well, I just asked you if you had heard of as high as 15%? A. Well, to be sure I have heard, but I had forgotten that I had heard.

Q. Are you contending that on large plants it would be larger than on small plants?

A. Certainly. Mr. Ledley is so great an engineer that he can command his own price. Mr. Ledley served a kind of German interest there, the Annheuser-Busch outfit, and he is a very lordly engineer. I must admit that he has no monuments left that 1924 are a great credit to him that I know of.

Q. What was the matter, the prices too high?

A. I don't know. In this case, I haven't laid the foundation for six per cent.

Q. You think six per cent would be reasonable?

A. I don't know. According to the size and the condition of the plant, I think it would be pretty high, pretty fat fee, especially of your reproduction value, that would be \$48,000.00, that would be pretty nice.

Q. In the Memphis Telephone Company case you testified and it was borne out by all the witnesses' testimony in the case, that the average call was 50 cents that were passing over that line, and that the Memphis Telephone Company would get $17\frac{1}{2}\%$ for the use of its local exchange, and 28 miles of long distance wire. Now, that would be $8\frac{3}{4}$ ¢ per call, would it?

A. Yes.

Q. Now, you testified also that the cost of handling long distance business would be a third of that?

A. 33 1/3% for originating expense that would make it 2 11/12 cents. I am glad you referred to this because in the North Dakota Independent Telephone Company, after a few years we found

out for the first time in history that in the long distance business it costs about 1/3 to operate and the rest of it—now

here is where we own both ends of it, and our operating expense at that time locally was about 50%,—it was the first light I had ever had on that particular cost and since that time by some coincidence, or something these Western Coast Commissioners have said, well, it does look like 35% represents the cost of handling a toll call.

Q. All right; let's get on to this. Now, you testified in that case that one-third of that would be all it would cost to operate, which would be 2 11/12¢ per call, but in order to be fair, of course, that was an in and out call and it would be twice that much on an origi-

nating basis, wouldn't it, or 5 5/6 cents?

A. Your mathematical ability is good beyond question.

Q. Now, you testified in that case that 5.5/6¢ would, on the basis of originating calls, pay for all the cost for handling the long distance calls that went over those lines didn't you?

A. Yes, the Minnesota Commission has gone further and allowed

the little companies 5¢ in and 5¢ out on calls.

Q. Now, would you be surprised to know that when you divide up the number of calls going in and out of Houston, you—a different percentage is being allowed?

A. I wouldn't be surprised at anything, because after all these charges are made, and it goes into the Treasury, whose is it!

1926 Q. Would you be surprised to find that the amount that

was allocated to the exchange was 14 9/10 cents per call?

A. I am not surprised at anything.

Q. And you would think, though, that that would not be a suffi-

cient amount to allocate to the Houston Exchange?

A. Oh, yes, I don't care what you allocate to the Houston Exchange, the fact remains there is so much money put through the toll business in this community.

Q. Let's stick to this question, now, Mr. Kelsey in the Arkansas

A. That was an externally owned line that we had nothing to do with.

Q. No, sir, it was internally owned.

A. Oh, I don't believe it.

Q. Your testimony here was that one-third of that 83/4 cents was sufficient to pay the cost of handling the business?

A. It might have been in that case. You know the cost of operation in Houston and in Memphis are entirely two different items.

Q. That would be 5 5/6 cents per massage?

Q. And here it is nearly 15¢ per message. That is 14 and 1927 some cents, 14 9/10é.

Q. Mr. Kelsey, in your examination of Keystone property, did you find a per cent, condition for that property?

A. At that time it was 90 per cent good.

Mr. Howard: You have been over all that, Mr. Frank. Why should we go over it again? I don't care how far you go, but we have a right to suggest that you don't go over it two or three times.

Q. How did you determine the per cent condition of it?

. A. By inspection, the same as you folks.

Q. The same as we do?

A. Why yes, you do it by inspection.

Q. Did you go out and inspect that property and find it in ninety

per cent condition?

A. I went out and fooled around and looked it over and I determined that it was 90% good, as a matter of fact, it is awful hard to conceive of a telephone company property that carries on these delicate, minute, currents, with all their difficulties that can be-in fact, I don't see how you can keep a plant, and I don't think the Bell Company ever keeps a plant under 90% efficiency.

Q. You think the Bell Company's plants are usually in

good condition, do you?

A. Why they are always in good condtion.

Q. You testified with respect to the calling rates in Cleveland: do you remember what was the lowest?

A. 3 8/10, Mr. Frank.

Q. Well, I didn't mean on that basis. How many calls were handled per operator per day?

A. I don't know. You have it there, about 340 or something like that.

Q. Your testimony was that in May it was 268 and in July it was 217?

A. Well, we made a study clear back.

Q. The lowest was 217?

A. Yes, I think that is true.

Q. Now, the figure that you gave here was found by dividing the number of calls per month by 27 working days and that by the total number of operators?

A. In service, ves.

Q. In the service. That was 580. If you hadn't used the average number of operators, it would have reduced the number of operators?

A. I don't know with the scarcity of girls, every girl worked full time, how are you going to have an average? Every girl being used

works 10 hours per day.

1929 Q. There would be something like 100 operators working

as Long Distance Operators?

A. Thank you for calling attention to the facts, one hundred operators on Tolls in Houston.

Q. I am asking you?

A. No, I am going to investigate it as soon as I get your figures.

Q. Oh, you are?

A. Yes.

Q. Now, there would be somewhere between 400 and 600 calls per day here?

A. I don't know; that is a matter of computation. I am not criti-

cising it.

Q. Well, at any rate, the number of calls per day here is satis-

factory in some respects, is it not?

A. No, it is seriously under. It seems to me that the Common Battery system ought to maintain a standard. One girl can handle 225 calls, or my girls in Minneapolis, even in the first year of operation, handled 250 calls per hour without any fatigue.

Q. Do you know of any place now where that is done?
A. It ought to be done. Isn't the girl the same height, and same weight, and same length of arm, that she was in '98?

Q. Do you know of any place where that is being done?

A. Why they ought to do it. Is there any reason why they can't? Same system, same methods, with improved methods, they ought to be swifter.

1930 Q. I am asking you if there is any place where it is being

done? A. Yes.

Q. Where?
A. There must be lots of places. I can't understand why a girl can't do work in this same system that she did when it was new. What in the world has happened in this evolutionary method?

Q. Just where was it you saw 250 calls per hour handled by a girl? A. Oh, some time, in the busy hours, between 10 and 11, they

would handle 260 calls.

Q. What years was that?

A. From 1898 on up.

Q. How did you determine the number of calls?

A. Peg Counts.

Q. You determined that they handled 260 calls per hour?

A. We watched them, of course. We were all interested in this system. That peg system was put in with considerable misgivings. We all feared it, it was a painful thing for a long time.

Q. You don't know of any place anywhere where that has been

done?

A. Oh, but I could find out for you.

Q. In Cleveland you made the same observations, you didn't after-

wards investigate and found out?

A. It never come to me to find that out. I will find out if I go to—I can go to the United States Independent Telephone Association Headquarters and get all the peg counts, if you want that.

Q. Do you know that we don't have functional systems in the small towns of Texas?

A. I should think you would not have.

Q. Well, you are criticising something that doesn't exist. They all combined in one. Now, Mr. Kelsey, suppose you tell me you denied the other day as I understand you, that in the Cleveland case, you allocated all the tolls to Cleveland. Now, suppose you tell me exactly what you did in the Cleveland case?

A. You are trying to find out what that case is but I will be very

glad to tell you.

Mr. Howard: Tell him again.

Q. Tell me. Judge Howard understands, but I don't. I say, will you tell me?

A. Mr. Frank, is this a physical endurance contest or not?

Q. I supposed it was mental.

A. Well, I am perfectly satisfied to go on a mental test for 30 years, but you know I am not as used to sitting in a chair 1932 as you are.

Q. I am trying to get the views, but I really have no levity

in this matter at all.

Mr. Howard: It is no levity, when you put a man on here and ask him to detail a thing, then you ask him——-

A. You use all this stuff you know. I will be very glad to tell him the theory in the Cleveland case. Apparently you haven't got it yet.

Q. Well?

A. If you have got it, what is the use of giving it to you?

Q. Well, tell me your theory of it, let's go on with the question. A. When you ask me for the theory of the Cleveland case, what are you asking me for?

Q. I am asking you if it is not a fact that in the Cleveland case in your computation you added in all the tolls originating in the Cleveland territory and claimed that they were properly chargeable and properly creditable to the Cleveland Exchange?

A. You don't understand yet. Q. Didn't you testify that?

A. No, I did not.

Q. Well, go ahead and explain it.

A. The Cleveland people invited me down to make a study of the Cleveland Telephone Company. I very firmly told them that 1933 the Cleveland Telephone Company wasn't making money.

Q. You told whom?

A. The City Council.

Q. Go ahead.

: A. Is that a wonderful confession to make?

Q. Just go and-

A. Oh, well, I am getting tired of this "bunk" I tell you very frankly and I am going to give you a sample of the fire-works I can use. You come down here and ask me to expose my hand in another case. We are going to the Supreme Court in that case, and we are going to make you jump.

Q. I don't want to make you expose your hand. All I want you to do is to tell me what you have already done in the Cleveland case?

A. I said, here the situation is a great deal like the Packers. Now, we know that the Armours are very well-off people. Somehow or other they always make money on meat. But they are always losing money. I said, here the A. T. & T. is a good deal like the Packer in this case. Here is a butcher shop which can be compared to the Cleveland Telephone Company, and they are losing money in that butcher shop, but this same owner, he has a long distance telephone company and he uses butcher shop as a terminal which takes a certain amount of money out of Cleveland. He has a little service charge, he takes a little more out of Cleveland, mind

you, they are both owned by the same thing, then they have another company that takes another amount of money out of

the terminal and then they have a great big bunch of unused reserve which they apply to their own capital account, of course, and use it. I said, this case is simply this: The owner of all these properties in Cleveland is making this amount of money which I showed you on the sheet. You remember it?

Q. I remember it.

A. Now, it is a question of how much in the absence of information, he is making on his investment in Cleveland.

Q. Did you arrive at any figures?

A. No, I can't find out yet.

Q. But you left that in expense like you are doing in this case?

A. Well, what else can you do? We are going to make you come clean and bring the books. That is the greatest weakness of the City's case, and always will be, is the lack of facilities, the lack of

information. We have got to compel certain information.

Q. So that in that case, although you started out with the proposition that the Cleveland Company was making a little over 1%

when you got through with your figures you had something like 15%?

A. I am not talking about the Cleveland Company. I am talking

about the owner, Mr. Frank,-the owner.

Q. All right, the owner, then.

A. The owner had 100% of the stock of the Cleveland Telephone Company, The Western Electric, Central Union, 1935 100% of the Long Line Company and he used all the reserves himself.

Q. In order to get the 15% gross profits-

A. (Interrupting.) That is what I called it,—the gross profits.

Q. In order to get that you added together-

A. (Interrupting.) The gross income from all the outlying concerns. Not the gross income of the Cleveland.

Q. Mr. Kelsey, in that statement you did state that all these tolls from all the Cleveland District was all profit until the telephone

company showed otherwise?

A. Why, I don't know what else it could be. That was perfectly fair to the Company. They could come back and show that there was a profit, or there wasn't. And I would have to abide by it. They wouldn't come across. If the owners are losing money in Cleveland it is up to them to show it. We get to the point where they have a profit in Cleveland,-a gross.

Q. Mr. Kelsey, in general, how many stations must be added to

a plant in order to have one?

A. Oh, 4 or 5, some times.

Mr. Howard: In order to have what?

Q. In order to have-1936 A. (Interrupting.) I might tell you that the cost of removals all over the United States will average about \$1.00 a station.

Q. I understood you to say that you had never made a study of

depreciation?

A. Oh, Mr. Frank, say, you are the limit. I didn't study depreciation, for the benefit of financial institutions and bankers in this business for 15 years, and I have written more about that than any man in the world. I have always studied the actual conditions and I am trying to make you come into Court with your actual conditions; come in here with your hands and show us what you actually That is the point. I could go along surmising and talking in percentages but say what has the Company done?

Q. What have you done to study actual traffic conditions?

A. Oh, I don't care about that. That got out of my hands. I am no traffic expert. I have a great deal of admiration for a fellow that will fool with it. It is a hard job. It is making girls work and listening to complaints. It is the most disagreeable part of the telephone system and I think the Traffic Manager ought to get more salary than his neighbor.

Q. That would increase the traffic expense, wouldn't it? A. It might.

Mr. Howard: It might decrease it. A good Traffic Manager might decrease it. We are inclined to think so anyway.

Q. Going back to the exhibit that you put in in the form of City's Exhibit No. 1, this figure that you call Local property value here is

not really total local property value?

A. Well, it is from what we know now. You said yesterday we had left out certain costs in our reproduction theory and I want to know what they are when I get down and put my final report in here.

Q. These figures in here are not final, are they?

A. They can't be anything else. I had to come into this Court and lay the foundation for getting something from you by force.

Q. Will you please tell me whether this figure that you have here

on your own theory, is a cost figure or reproduction?

A. It is a combination of both, Mr. Frank. You set down an inventory in 1914, and you claim certain values. Since that time the Auditors find that you put in a certain amount of money on top of that.

Q. But you actually have a hybrid without having either?

A. Anything is a hybrid where you have a composite figure. We

have a historical value of things which is a hybrid.

Q. If you were undertaking to value this plant as an independent engineer and taking your time for it, Mr. Kelsey, would you or would you not want to see an inventory?

A. Why, I did want to see it and I asked you for it and I got it,

the 1914 inventory, and accepted your proposition.

1938 Q. But would you value a piece of property in 1920 on a 1914 inventory?

A. Yes, and so will every Commission in the United States do the same thing. You don't have repeated reproduction.

Q. Does that figure that you give here represent your best judgment of what the fair value of reproducing the property is?

A. Pretty nearly it would, and when I see your figures, then I will

come in here and absolutely say what it is.

Q. That is, you think that the present value of the property can be obtained by getting a reproduction figure?

A. At some times in the history of its life.

Q. And adding its addition from that time on?

A. Yes, since.

Q. Since that time? You think that gives you a fair value of the property?

A. That shows pretty nearly all the money you have got in it

Q. Mr. Kelsey, would it be interesting to you to know that the book cost of this property here is \$4,800,000.00 and some odd hundred thousand dollars?

A. Well, if it is here, it is here. I would like to see it.

Q. Would it be interesting to you to know that four other engi-

neers have testified in this case that the present value of this property is around \$8,000,000.00?

A. There is not one of the engineers that has testified in this case

that I would give \$1.00 for their opinions.

1939 Q. They are not competent?

A. Competent for your purpose, but not for mine. You wouldn't have had them here if they hadn't appeared for you.

Q. But this is your idea of what the property costs?

A. And what your investment is. That is, what we are trying to find out in a confiscation suit. You can't take away from a fellow something that he hasn't put into it.

Q. So that when the figures here are finally amended by you it

will be what the property finally cost?

A. In justice to you, it takes in all the money you put in since '14, and all the additional money that you might have put in.

Q. Can you define value?

A. No, I am talking to you about the money you have got in this property.

Q. I am talking about value.

A. You might call it value if you are selling. You are not a selling concern.

Q. Do you have to sell anything to have value?

A. You pretty nearly have to.

1940 Q. Is a sale necessary in order to have value, Mr. Kelsey?
A. Yes. It is, yes. The only way we determine market value is by the sales, transfers of property on the Exchange.

Q. How are we trying to determine market values here?

A. We are trying to do something here.

Q. You are trying to determine value, but not market value?

A. You are trying, in other words, to realize your profits in this case?

Q. No, sir, we are trying to find the value of this property.

A. Well, if you were a private concern and not subject to-

Mr. Howard (interrupting): What do you want to find it for?
Mr. D. A. Frank: I am not on the stand, Mr. Howard. I have argued this case with you so much, I don't want to argue it with you now.

Q. We are trying to find the value of the property, Mr. Kelsey.

A. Well, I am trying to find what you actually and reasonably put into it.

Q. So that if the Court is interested in finding the value, you don't concern yourself with that?

A. I am not trying to influence the Court at all.

Q. You are not trying to find the value but you are trying to find the cost?

Mr. Howard: If Your Honor please, he has stated about 25 times that he has taken the inventory of 1914 and has added since what the additions cost him. Now he can ask him that same question, go back over it 100 times, and that is all there is

to it.
Mr. D. A. Frank: All he would have to do is to answer it frankly

one time. This is all that would be necessary.

Mr. Howard: He has told you a number of times what he has done. Now, you keep asking him that same thing. He has told you that he is trying to find out what the investment in this plant was and he has told you that he has not approached this thing from a reproduction stand-point, or from the stand-point of taking an inventory of the property and applying the unit prices and material cost and overhead charges. He has told you he has not done that. He has told you just what he has done.

Q. You put down your statement here, Mr. Kelsey, total local property value when you meant total local property cost, didn't you?

A. Well, I put all synonyms down. There is nothing fixed.

Q. You see, Mr. Kelsey, what drags this out is that you never answer a question until you—will you please answer the question as to whether or not within this figure you undertook to set out the present property value here, or whether you merely attempted

1942 to set out the cost?

A. I am telling you that I put a value there that was all correctly written and dictated without a thorough study of all the synonyms and derivatives of the English language. We might go back and prove that that was something else.

Q. You haven't yet answered my question?

A. I intend, eventually, to put down the reasonable amount of money that you folks have put into this property.

Q. So that you haven't undertaken to show what the total value

is?

A. The money you put in since 1914, is certainly entitled to some consideration. I think you have a very happy combination of circumstances there myself.

Q. Is it your idea of applying judgment to all the relevant facts to give a figure of reproduction some time and put the additions on

there from that time on?

A. Every Commission in the United States has practically ruled that way because you can't expect a company to make a reproduction inventory every 5 years. It would be absurd. When you once set a thing—as long as your system stays standard, why not adopt the theory of once having an inventory and then having your additions, and after that, if the conditions change—

Q. (Interrupting.) Then, as I understand you, your whole exhibit it is an exhibit that is not in any sense final?

A. Well, it couldn't be. I suppose it will be after you let

1943 me have your books.

Q. Now, on page 2 of your Exhibit?

A. (Interrupting.) That is no Exhibit. I put that in there to give you something to shoot at.

Q. It was introduced in evidence.

Mr. Howard: I introduced it in there as illustrative.

A. I wrote that for you, Judge Howard, not necessarily for the case, and for the Judge, if he wants it.

Mr. Howard: As illustrative of the way that he would handle the property but necessarily inaccurate because you haven't furnished information that you say you will furnish.

A. (continued). How in the world could a man come down here, reach here Thursday and come in here in a few days with all the details in this case? Passed through Houston at high speed, it is very evident—

Q. (Interrupting.) 1 think it is very evident,-very evident that

you made these figures on high speed.

Mr. Howard: Just so you don't mislead yourself, if you are honest about it, and so that our minds will meet, this was put in here as an ordinary exhibit of the way Mr. Kelsey claims these propositions

should be handled. First, the matter of valuation. He takes your inventory of 1914, and adds your additions since that

time as his method of valuing the plant, as a very proper method of getting at what your real investment is. Then in regard to your receipts, he illustrates just how he would handle the question of your long distance tolls, and which he will complete when he get the books that will bear upon that question. That is the next principal thing that he brings in issue with you upon. The next thing is the matter of Depreciation Reserve. Those are the things which he has upon the \$11.00 per station instead of upon your percentage basis. Now, this illustrates his contention and shows you will notice, at the bottom of the paper, that you call the Exhibit he has stated there "Total Local Property Value" which in the light of his testimony indicates that he means it largely as an investment, but that owing to your receipts you can understand that.

Mr. D. A. Frank: I de understand it now, but I did not under-

stand it until the witness told me.

Mr. Howard: Now, he intends to add to these Local Property Values here, inasmuch as he says the tolls should be handled in the manner he has indicated, the total tolls chargeable to Houston, and that illustrates the method of arriving at the final result, which is

inaccurate and temporary only. Another thing that is subject to change there is that $4\frac{1}{2}\%$ that he says you are not entitled to, but which he has allowed. Now, that is all those figures indicate. They illustrate the proposition but it is necessary, before they can be checked and the final computations made, that he should have this information which you have promised to give him.

Mr. D. A. Frank: The words "inaccurate, temporary and illustrative" were not used with reference to these figures until after this witness had been on the stand a day and a half.

Mr. Howard: I thought you grasped that.

Mr. D. A. Frank: We have urged the objection to all this testimony on the ground that it is purely hearsay and based on assumption.

(By Mr. D. A. Frank:)

Q. Mr. Kelsey, at the bottom of page two of this exhibit you say item—the depreciable figure allowable to the Houston district, it covers both local and toll conditions chargeable to Houston—it is \$146,-120.00. Now, I don't care to go over that because you have explained how you arrived at it here; that is, you take \$11.00 per station and take out maintenance and it left this figure.

A. Take out maintenance—take out all maintenance and I would find that you show more. You just read in the record the reconstruction figures, that I overlooked, and I am going to put in there—it is deferred maintenance,—present maintenance.

nance and deferred maintenance are all the same.

Q. The Interstate Commerce Commission makes us call it depreciation.

A. It don't make any difference; it is maintenance in one case

and deferred maintenance in the other case.

Q. Now, Mr. Kelsey, this figure of depreciation here is intended by you to cover all the depreciation that will take place in the city of Houston and on the portion of the long distance lines that you intend to allocate to Houston?

A. The reserve part; that has nothing to do with reconstruction

that is going on; you have got to charge that it.

Q. Now, Mr. Kelsey, that figure would have been the same if this had not been owned by the same company,—that is, the long distance business, had not been owned by the same company, wouldn't it?

A. Not necessarily.

Q. Wouldn't it have been the same?

A. Not necessarily, because the maintenance figures wouldn't have been the same,—you have got a charge right here for maintaining the toll lines—I know you don't think you have, but when I get your books I will find out how you have got the operators here charges to Houston. That's what I want your books for, Mr. Frank. I think your books are wonderful, but I want to see them.

Q. You had in mind this, without having a sufficient 1947 amount to cover this depreciation in this city and all long

distance lines?

A. (Interrupting.) Yes, and applied to the company as a whole.

Q. But you don't know how much the total is going to add?

A. I don't know, but I hope to spend the first day at Dallas trying to find out. I know what was found in the Birmingham case.

Q. Mr. Kelsey, in the city of Dallas, the property is now owned by the Dallas Telephone Company-it does not own any long distance

A. (Interrupting.) Who is the Telephone Company?

Q. Well, it's probably owned in proportion of the stockholders of the original company by the independent company and the Southwestern Telephone & Telegraph Company.

A. I didn't know that there was such a company in existence.

Q. Now, that company has no long distance lines so that in making a computation of this account you couldn't allocate any part of the long distance lines to it, could you?

A. Well, you are not charged with any, yet, Mr. Frank. Q. Now, under your system of setting aside \$11.00 per station you would set aside \$11.00 per station at Dallas just the same as in Houston?

A. Yes, and give you the differ .ce between the actual cost of

maintaining that plant and that amount.

Q. And that would be just enough to maintain it and replace it at the proper time?

A. Yes, and always have money. Q. On Page 4 of your statement, referring to the Keystone 1948 Company that pride-

That's chestnuts. A. (Interrupting.)

Q. —that pride of your life, you say that last year the company decided to change to automatic telephone service and it is a matter of interest to say that the company has enough reserve money to pay all charges and have some left.

A. Even a new plant.

Q. Now, Mr. Kelsey, please give us your authority for that state-

ment.

A. You can get that by getting Mr. Stockwell here as a witness in this case and ask him. It is a matter of common knowledge in the telephone business, and in discussion among telephone men, among manufacturers and my clients, that the Keystone was a very unusual concern that could pay its bills.

Q. When you say that company had enough reserve money to pay all charges and have some left over, it is a matter of common knowl-

edge, you say?

A. I mean that, just as I expressed it, exactly.

Q. But, Mr. Kelsey, you have made the statement here, and it is supposed to be sworn to; do you know whether or not it is true?

A. Why, have I committed perjury here? I hope I get out of Texas sometime—before I get 20 years.

Q. I asked you if you know.

A. I told you, and have just said what I know about it. 1949 Q. How much did they have in their reserve for depreciation?

A. I don't know.

Q. How many stations have they?

A. I don't know.

Q. You stated between thirty and forty thousand?

A. I think that's all.

Q. And you say it takes \$60.00 per station?

A. Get Mr. Stockwell, of the Keystone Telephone Company, in this case, and he will supply all missing links in this proposition. If I had known I was to be in this case I might have stopped in Philadelphia a few weeks ago and read up on it.

Q. You haven't seen the books at all?

A. No, it would take a Court order for me to see them-I am only a minority stockholder.

Q. And still you make the statement?

A. From common knowledge among men in the telephone business.

Q. Although it cost a million eight hundred thousand.

A. I think it is a matter of common knowledge among manufacturers - each company-the manufacturers want to know about the credit of each company, some companies are rated good, and some bad, and the Keystone is the best A-1 risk in the business, because they have got the money.

Q. Suppose your statement is accurate and they have just got enough in the reserve to take care of the switchboard and change it

to automatic, and there would be a difference between the actual amount and the amount replaced—if they should happen to have to take down some poles and lines after they had exhausted the fund where would they get the money?

A. Borrow the money, charge it to reserve and pay for it.

Q. Your idea is-

A. (Interrupting.) Sometimes the reserve fund is empty and you create some indebtedness; you never keep the height of the reserves

Q. Your idea is to borrow the money and then amortize it?
A. That is pretty safe as long as conditions are as good as they

are here in Houston.

Q. On top of page 5 you have this statement: "But the company has claimed a loss of \$1,274,249.00 for the past four years and has specially asked for \$359,999.00 for 1919." Where did you get that?

A. Apparently from your own figures. Q. Is that on these figures used here? Who gave you these figures and what do they mean?

A. I guess the city engineer gave me these figures and you gave them to him.

Q. Mr. Lyndon gave them to you?

A. Yes, sir.

Mr. D. A. Frank: I think that's all I have. Just a minute.

1951 (By Mr. D. A. Frank:)

Q. I want to ask you one more question about the automatic. What would be your estimate as to when the automatic switchboard ought to be put in?

A. As soon as you can get it.

Q. On what ground?

A. \$16.00 operating charges only; it ought to worry you more that it does the city.

Q. I suppose it does.
A. I know it does.

Q. What does the automatic save?

A. Saves operatives.

Q. Does it cost more to install in the beginning?

A. Why I think so.

Q. Does it cost more to maintain it?

A. Not necessarily.

Q. Now, Mr. Kelsey, you have testified that it does, haven't you?

A. No.

- Q. Haven't you ever testified that it costs more to maintain it?
- A. Get the goods on me, I will be glad to know. I will be glad to have anything in my past life exposed. I haven't done anything—haven't even deserted a wife in Russia, as you pulled on a witness a short time ago.

Mr. Duls: What case is that?

A. Mr. Russell's. I might state incidentally it was dis-1952 covered that it was the witness' second union, and the poor expert left a wife in Russia,—Mr. Duls was there. I still love my wife, and I want that in the record, too.

Q. But it is a fact, however, Mr. Kelsey, that an automatic switchboard requires more attention and more money to maintain it than

a manual switchboard?

- A. No, that isn't true, Mr. Frank. We could easily demonstrate that by the suit of the Citizens Telephone Company of Grand Rapids, with something like 20,000 telephones. The Bell Company put it into Norfolk, Virginia, and we will soon have some of their records on the cost.
- Q. Mr. Kelsey, to refresh your memory about what you say about the automatic switchboard?

A. What was the date of that?

Q. I recall to you that in the Enid case in i 36-

A. We had no automatics then to amount to anything. The automatic was experimental and fighting against every odd.

Q. Well, well wasn't it actually installed in about 40 places there?

A. Good Heavens! You can't any more compare the automatics of today with the automatics of that Enid case than you could compare the battleship of the main line of today with one of the Spanish War. They went through an awful struggle,—now be fair.

Q. I am going to be perfectly fair with you, but do you say that

you did not have a good opinion of them at that time?

A. A rotten opinion of them at that time.

Q. Didn't you at that time say that you wouldn't, if you installed a switchboard of 2,000 put in anything else?

A. Not intentionally. If I said that I ought to have been

discharged,-canned.

Q. (Reading:) "Q. Were they to perfect this automatic switchboard, you would save above the operating expense to install it, would you not? A. I will have to differ. I analyzed every Automatic Telephone in existence and I have not saved a five-cent piece. Q. Then the Automatic System up to the present time had not reached perfection—that telephone companies can afford to install it at this time. A. Automatic systems will affect the girls. Your girls are about one-fifth the total expense and run from \$2.00 to \$5.00 per station. You may save on your girls, but you lose on the first installation. Q. You are dealing with Automatic as it is now being tried? A. Yes, sir. Q. How many places? A. About forty. Q. What places? A. Grand Rapids; San Francisco; Los Angeles; Sioux City, Iowa; Portland, Maine; Decatur."

A. Los Angeles and San Francisco and Decatur have disappeared

by the Bell.

Q. (Reading:) "Q. How long have these automatic systems been installed? A. About four years, probably five years. Q. As a matter of fact, they are not proving a success, are they? A. I reached the stage of engineering, that if I were going to install anything above 2,000 station, I would not put in anything else."

A. Well, what has that got to do with that per cent?

Q. (Reading:) "Q. You are aware of the fact that these Exchanges that now have them installed are trying to get rid of them? A. No, sir, they are very well satisfied. Q. If there is such a report current, it is without foundation? A. In my experience, Sioux City is well satisfied and Portland is well pleased."

A. Sioux City is very ready to do it over, Mr. Frank.

Q. (Reading:) "Q. When they have this automatic system in operation, they have no operating girls? A. They have to have a few. You can not eliminate the one-fifth entirely. You have to have a few information girls. Q. So far as the practical operation of the Exchange you don't need any girls? A. Not in city work. Q. The elimination of that expense today you say is counter-balanced to some extent by the maintenance account? A. Tolls and additional service, plus interest on additional investment. You have two items, Q. What are the elements of additional cost in these various switchboards, I mean from the manufacturers standpoint?" And then the rest is not responsive.

A. All right, at that time your maintenances was just about what it is today. It costs from \$2.00 to \$5.00 to hire girls per station.

Q. Girls don't maintain the switchboard?

A. I am not talking about your maintenance being about the same, but the cost of the girls has mounted up to such a point that that has made all the difference in the world. It must be 1955 valuable because the Bell Company has set out to buy—

(By Mr. Howard, interrupting:)

Q. What proportion does the traffic bear to the maintenance in this plant?

A. The traffic expense of this plant is three times what the main-

tenance expenses are. They used to be even.

Q. I just want to ask you a few questions on that. The traffic is now three times the maintenance?

A. It is now; \$16.00 as opposed to \$5.38. It has gotten clearly

out of proportion.

Q. The traffic is largely made by operating?

A. Oh, yes, that is the big bill.

Q. Roughly, what proportion would the operating bear to the traffic?

A. About 80%.

Q. What extent would the installation of the automatic reduce the operators?

A. Why in this town is absolutely and practically wiped them out

Q. There would have to be some operators?

A. Well, information operators and things of that kind, to take care of information, but since it has been rebuilt and developed it does not require-

Q. (Interrup-ing.) It would reduce the operators 75%, con-

servatively speaking?

Yes, easy, but the maintenance of the Automatic Sys-1956 tem today is no greater than the maintenance of a common battery switchboard. Why, they have made battery systems,-the Automatic Systems, made today do not any more resemble the ones-

Q. (Interrupting.) The more they perfected the systems, why

that would bear directly on the cost of maintenance?

A. Yes, absolutely true.

Q. Now, Mr. Kelsey, those are about the only methods we want to go into with you at this time. Now, I understand that you will procure these books that they promised to let you have this informa-tion, that will relate to the handling of these long distance tolls, and to the apportioning of a certain part of the long distance tolls?

A. The pro rate, the actual reconstruction cost of the Houston

Exchange back as far as 1900 anyway.

Q. Then you will check the figures on the basis of 1919 of the 1919 revenue, allowing for the increased rate that was put in in 1919?

A. Well, I can begin the study of it, just as soon as they turn over to me their 1920 report, that is their January report which is due on January 20th, and then that bears directly on the five and two I haven't arrived at any conclusion yet about this rate being too high or too low. I may decide that this rate ought to be raised considerably, I don't know, yet.

Q. But you will take into consideration revenues as they

actually occur?

1957

A. Oh, as they actually exist.

Q. As they actually exist and which may not be accurately set up

in this little statement?

A. I don't think it is fair to take any 1919 statements in connection with Houston, when the Company has this January report. which is a typical month, and I can almost create the skeleton, or we can go back four months to where this began and create a five months period.

Q. Back to the period when it went out of Government control?

A. Yes.
Q. Then you can make a study of whatever the cost of establishing business was from their books, and from their records?

· A. Oh, sure, I want the copy of their report to the city on re-

production new.

Q. Then you have adopted the value of 1914 plus additions?

A. Yes.

Q. And then plus stores and supplies and their working capital, if they are entitled to any, and any intangibles that they are entitled to?

A. Subject to depreciation, Judge.

Cross-examination.

1958 (Questions by Mr. D. A. Frank:)

Q. Mr. Kelsey, the automatic switchboard is much more intricate than the manual switchboard?

A. Not now, it is really a beautiful thing.

Q. Is it simpler? A. I think it is.

(By Mr. Frank:)

Q. Well, while we are on the 41/2% that reminds me. After you finished testifying in the Cleveland case and they criticized the 41/2%, did you hear the Chairman of the Board say that he had already investigated it, and it was correct?

A. And he said the matter of the contract didn't concern them.

Q. Is that what he said?

A. Yes, that is my interpretation of it. I am not disputing the 41/2%. I didn't in that case.

Q. Where do you dispute it at all?

A. Why no, I am going to present a proposition on that 41/2%. It is no dispute.

Q. You know that the Ohio Commission remarked at the time

that it approved it?

A. Say, when the Ohio Commission has a young man that has been raised with the Bell Telephone Company, they are liable to approve it.

1959 J. C. Kelsey, a witness for defendant, was recalled and testified as follows:

Direct examination.

(Questions by Mr. W. J. Howard:)

When I was here some weeks ago and testified, I submitted what I called a tentative statement, with the statement that I would get further data from the Company and put in a final or corrected statement. Since that time I have received no further information from the company, or from the Company's books, except that I got while in Dallas. I made an inspection in Dallas the day after leaving here. I had access to the Company's Balance Sheet, Income and Expenses for the Company as a whole.

I did not get the inventory of 1914. With reference to the effort I made to get that, I asked for it, but I haven't seen it yet. I asked Mr. Frank for it, I think, or Mr. Gates, someone. We talked a great deal about that reproduction value in 1914. I tried to get it, but I haven't got it yet. The answer, or information that I got in regard to it was that I would get it, sometime, I guess, but I have

not seen it yet. I have not received any satisfaction par-1960 ticularly with reference to it; they said that somebody had it, it, at least, wasn't there, when I was. It wasn't accessible at the time. They did not furnish it, and have not furnished it as yet.

Mr. Howard: Now, Your Honor, we introduce here in evidence a paper. We introduce this copy and you gentlemen can use that. We just hand it to the stenographer and let him identify it, it will be Kelsey's Exhibit No. 2.

(The paper referred to was marked "Kelsey's Exhibit No. 2," and is transmitted herewith in the exhibit file.)

Q. At the bottom of Page I, Mr. Kelsey, of this exhibit, you check up here what purports to be the value of this property and you say on the top line of that subject "Reproduction Value, 1914 (company figures)." As I understand it, it was the 1914 inventory showing these figures that you sought from the company and was unable to get?

A. Yes.

Q. Then how did you arrive at this figure of \$2,672,211.00?

A. From Mr. Lyndon's report here on the company's figures.

Mr. D. A. Frank: If Your Honor please, at this time I want to renew the objection that I made at the start of this and incidentally will say that it is entirely new to me, that this witness has 1961 ever made any demands for any 1914 inventory. In fact, I don't know of any such inventory, but I do know positively that he made no demand on me for any such inventory.

Mr. J. D. Frank: He made none on me.

Mr. D. A. Frank: I want to renew my objection to any hearsay testimony based on Mr. Lyndon's figures and this testimony has been shown to be incorrect and he is proceeding eith it, assuming

some figures. I imagine Your Honor will want to rule some way that we want to reserve our exception to the testimony based on it as we think it is entirely useless.

The Master: This Lyndon estimate, I don't recall just exactly

what the testimony was.

Mr. Howard: It showed that he furnished them figures that were made from this statement, from their own figures on their inventory valuations made in 1914, upon an inventory of reproduction cost showing the property to be worth this much money and Mr. Kelsey's testimony is that he accepted those figures as company figures, having tried to get the inventory of 1914 and not having been successful,

The Master: I am going to over-rule your objection all right, but I want to know: Your contention is that the inventory was erroneous

testimony.

I haven't seen the inventory. I don't know anything about inventory. I haven't seen the inventory. I don't know exactly what he is talking about, and I don't think the witness does, but my objection to it is, for the very good reason, that on the witness' own statement, it is pure hearsay. He is merely taking a statement handed to him by Mr. Lyndon, that on the face of it, is wrong.

Mr. Howard: It is not necessarily hearsay, Your Honor, because Lyndon testified that these figures were furnished him by the Com-

pany, himself.

Mr. D. A. Frank: Lyndon has not testified to that. The Master: I will give you your bill on it, Mr. Frank. Mr. D. A. Frank: Yes, the assumption is meaningless.

As shown by this exhibit or statement, I accepted a reproduction value based upon Company figures as of the year 1914, amounting to \$2,276,211.00; the total value of the property at that time.

Mr. D. A. Frank: I object to the question because it is leading and because it clearly draws a conclusion of this witness on an erroneous assumption as to how valuations can be arrived at.

Mr. Howard: He stated how, Your Honor.

that your Honor is going to be mislead by the statement that this is a valuation, but at the same time I don't believe we ought to concede even when Mr. Howard asks the question, if valuations can be arrived at by taking some figures that were prepared six or seven years ago and adding certain additions to it, calling it a valuation, and I have merely stated that, more to get the matter before Your Honor than for anything else.

Mr. Howard: You are proving what the reproduction value was

in 1914.

Mr. D. A. Frank: I say we have not.

(Mr. Kelsey:) I say this was the value at that time as arrived at by that method. It seems that at one time in the history of the company there was an inventory taken. The public utility law is

Mr. D. A. Frank: I object to this witness stating what the public utility law is. I think he ought to just answer the question.

The Master: I think you should just state the facts.

In that manner I arrived at the inventory, at the cost price, at the cost of reproducing the property at that time, in 1914.

1964 With reference as to what else from my investigation enters into the value of this property since that time, we merely take a record of the actual money put into the Plant. I got that from the same report, Mr. Lyndon's. I didn't have time to go into these things. It wasn't understood that I was. Mr. Lyndon heard all this.

Those things things are all subject to being refuted by the company's books; they are a matter of record. I have added to the reproduction value of 1914, the additions to the plant since that time. Those additions, as shown by my statement, which purports to be taken from the company's books, amounts to \$1,374,560.00,

up to December 31st, 1919.

In adopting that method of taking the reproduction value of 1914, and adding to it the additions to capital and plant since that date, I arrived at \$12,046,771.00 as the present value of the property, local, as of date December 31st, 1919.

Under subdivision 4 of that heading, I have an item of "Toll

Investments Chargeable to Houston," of \$808,621.00.

Q. How did you arrive at that amount of \$808,621.00?

Mr. D. A. Frank: Wait just a minute. Now I want to add to my former objection at this time, to the consideration of 1965 any toll property at all for anything else in connection with toll, other than a bare statement of expenses and income in the City of Houston, for the reason that Your Honor has no jurisdiction to pass upon property outside of Houston. It is not involved in this case. The whole theory of taking a portion of the toll plant of this State and allocating it to the City of Houston, is wrong. As stated heretofore, if you go ahead on this witness' theory, what you obtain when you get through is the valuation of the plant in Houston, plus a percentage of the toll plant of the entire State and then take the expenses and revenues for the City of Houston on the local exchange plant, plus a proportion of the revenues and expenses of the toll plant of the entire State, and I guess when you got through you would have a nondescript, you would not have the thing that Your Honor is trying. Now it is futile to proceed with that testimony and have this witness on the stand for two or three days on cross examination on the theory that Your Honor is not going to follow. I can't conceive of a sound thinking, thorough minded Court proceeding on the theory that Kelsey is attempting to put over in this case. What Your Honor is trying here is not the value of the toll plant in the State of Texas, but what Your Honor is trying here is whether or not the property in the City of Houston is being con-

fiscated. Now, if Your Honor wants to go further or wants to listen to it, or think that time will be saved by listening to the testimony, of course, that is Your Honor's own affair,

but I prefer at this time to raise the objection so that Your Honor

will see the position we take.

Mr. Howard: Of course, Your Honor, these objections are not made with the idea that any positions will be sustained, but are made for the purpose of arguing the case, instead of arguing it at the case, instead of arguing it at the end of the trial.

The Court: Just a minute. I will over-rule objections at this

time.

Mr. D. A. Frank: Note our exceptions.

Mr. Howard (continuing): With the idea though Your Honor, of following this theory, he makes this assertion to the Court and brands it as something we are tying to put over, and something that is for the purpose of misleading the Court. I don't think the Court is going to be mislead even though I tried to.

Mr. D. A. Frank: I didn't use the word "mislead" at all.

Mr. Howard: But this is a sound theory and we have no doubt that it is one that is the key of what might be called the mystery of going along in the red all the time, and not making money.

Mr. D. A. Frank: I think, Your Honor has ruled on the question.

Mr. Howard: I wanted the Court, if you can do it, to get the relation upon which we are proceeding. Now, he made the suggestion that you have no jurisdiction or power over property outside of the City; that might be admitted to be true, but this is an equity case, whereby they are seeking the applicable rating. Now, they have property here in this Exchange that they come here and try to make the Court believe is very limited in its earnings, that the revenue derived from it is small, that it amounts to something over \$400,000.00, by the way of local tolls from subscribers. Now, that is not a fact. The fact is that they are originating here this property and earning here \$441,000.00 tolls, that is nearly double the amount that they say should be looked upon as revenues.

Mr. D. A. Frank: Four times as much, Mr. Howard.

Mr. Howard: Four times as much as what?

Mr. D. A. Frank: Four times as much as we allocate.

1968 Mr. Howard: I was not talking about that. I am talking about it was just as much again more than you say your entire earnings in your local exchange were. You earned about \$800,-000.00, in your local exchange and about \$400,000 is all the local exchange is given credit for. Now, as Mr. Frank well put it, this is a question of confiscation; that is what Your Honor is concerned with. Now, when is the line of confiscation going to be reached? They have a property here they say, is worth a great many thousands of dollars and if you won't let us earn more than that, you are confiscating our property. But we tell them, your property is engaged in other enterprises, you haven't got this property here that is limited to the use of this local exchange, but this property is bringing into your treasury another \$441,000.00. Now, you can take it either way you want, you can either add to this property here, the fair part of the total property and put it in as this valuation. In other words, it can be done that way. Or, the value of the property useful and used for the local exchange here could be reduced accordingly because they can't say, 'we have got a property here that is serving a twofold purpose and while it is true our revenue out of this alone is only \$800,000,00, and you are therefore confusing it.' If they had by products or another source of revenue that is derived from this property, it has got to be a fair adjustment of the other. You can either add to the property and make it pay a return here or the value of the

property should be reduced in proportion of the amount of 1969 They can't have this property here bringing them the tolls. in big revenues outside of the local Exchange and at the same time limit or say our earnings are limited to this Local Exchange, or hand this Company here the very insignificant part of the earnings and say you must be satisfied with that. Now, Your Honor, will understand that all these expenses are allocated to these exchanges so that the effect of this, the way this thing is operated, they have all these different exchanges over the State and they allocate these Exchanges the prorata part of the expense of operating all these toll lines. Now, that expense is taken care of by all these different exchanges and there is twenty-five per cent taken out of the earnings of the initiating calls and the result is that they have seventy five per cent of these tolls free from any burdens of operations whatever, but absolutely in the language of A. Baker, ("pure velvet") that goes to the Treasury of this Company.

Mr. D. A. Frank: Of course, there isn't a particle of evidence to

that effect.

Mr. Howard: Now, that is true, there is property invested between these different points but the operating expense is all allocated to the Exchanges, Local Exchanges so we say to you that to make it fair, a fair an equitable return so these people are not losing their money we say, that is all right as to these local exchanges the apportionment of the profits, that you are charging them and make near a fair return.

An Independent Company, in getting its supplies does not have to have some Purchasing Agent to purchase on a percentage basis for it; they are all in the open market; they buy direct from the Western Electric Company, the same as the Bell Companies do. They have had Western Electric Company Salesmen standing in line asking for their orders for years and years.

The Independent Telephone buyer has a big, powerful purchasing agent for it, but he gets his stuff from the Western Electric Com-

pany, at market prices, and he needs nobody.

Q. Welî, is the same benefit to be derived from this four and a half per cent upon purchases by the Western Electric Company for these associated companies, these American Telephone and Telegraph Companies?

A. You mean they get a better price?

Q. Yes.

A. They claim they do. I don't know that they do. I know when the Western Electric whipped us in competition, their prices have been absurdly low. The first switchboard job they ever took

away from me was in Columbia, Missouri, and then we fought all along the line. Probably sixteen switchboards they took away from They went into the game with only a top cost. They had an

idea there wouldn't be any selling cost connected with the Western Electric Company, but they found out it took three 1971

hundred salesmen to sell their goods as against our seventyfive or eighty and they finally quit, but they are still in the open market and they sell a man anything and they go out and buy it for him, if he can't get it. They are the most accommodating concern in the world. If I was a customer I would rather deal with the Western Electric Company than deal with my own Kellog Com-. pany, because they do more for them than I do.

Mr. D. A. Frank: I thank you for your kind words for the Western Electric Company.

A. (Continuing:) Well, I owned stock in them and lost money in the investment, too.

Cross-examintion.

(Questions by Mr. D. A. Frank:)

Q. You went off and did just what I said you were going to do when you were here before in finding a valuation or the proportionate part of the valuation of the toll property allocated to Houston, didn't you?

A. No.

Q. You did not?

A. No, you tried to find out what I was going to do, you 1972 know and you didn't.

Q. I told you that there were four different ways you could allocate the toll property in the city?

A. Oh, no.

Q. To the local exchange?

A. North, south, east and west?

Q. Well, you can call it North, South, East and West, but one of them was the total revenue of Houston compared to the total revenue of the Company; another was the total at Houston compared to the total plant of the Company, and another was the total plant at Houston to the total exchange plant of the company, and another was the expenses at Houston compared with the total expenses of the Company and I pointed out to you that it would make a difference which basis you used and that necessarily some would be higher and I asked you the question, if you were going to take the lowest percentage that was shown by those figures, didn't I? Didn't I ask you that?

A. Well, I suppose you asked me that. You probably did. I

don't remember.

I didn't have any idea at that time: I hadn't studied it,-which one I was going to use. I used nine and four tenths per cent, which shows in that third page there.

Q. Now, I have had an estimate made myself to see what

these figures would show and the total revenue at Houston compared with the total revenue of the Company is nine and four tenths per cent; the expenses at Houston compared with the total expense of the company is ten and eighty-five one hundredths per cent; the plant at Houston compared with the total plant of the company is fourteen and eight one hundredths per cent and the plant at Houston compared to the total exchange plant of the company is twenty and fifty nine one hundredths per cent, and I notice that you selected the lowest percentage.

A. Oh because the others had nothing to do with the case. Q. Because the others had nothing to do with the case?

A. Yes, because here the amount of hours and the time used on these lines are the only basis.

Q. Are you acquainted with what your answer was, before you

went away from here and got your figures up?

A. Well, I wanted to leave something for you to think about until I met you again.

Q. I have been thinking for quite a while.

A. So have I.

Q. And I just wondered ahead of time why you selected the lowest figure.

1974 A. I don't know, I didn't know you were as foxy as that. You Bell attorneys have a wonderful memory to remember things that never happen sometimes.

Q. Do you say that that is not true-A. I have gone into the proposition-

A. Everyone of those figures, I rejected as not being the proper basis. Houston people don't use those lines as much as other people, why should they pay for it?
Q. Why, didn't you tell us that before? I asked you then on

what basis you allocated it.

A. Well, I didn't tell you Mr. Frank, because-

Q. (Interrupting.) The reason you didn't tell me was because you didn't have to tell me?

A. Probably that, and then if I had-

Q. If you had found out it was twenty and fifty-nine one hundredths per cent instead of nine and four tenths per cent, you would have used it just the same?

A. I told Judge Howard when I was here before, I said it all de-

pends on what that figures.

My objection to taking the entire exchange plant in the State and allocating your toll on the basis on the propor-

tionate part of your plant is because that is not the unit that The unit you use is the time you use the lines. There is nothing to do with so many feet of underground, and so many vards of cable here; there is only one unit. You have got to deal in the hours that you use the lines. Supposing that, the time that you use the lines in Houston this year, happens to be 9 per cent and next year happens to be twenty per cent and then you get the twenty. Your local rate absolutely ought to change. Some years my business loses money and some years it doesn't. You apparently want profit all the time. If it is twenty you get it. If the Local Exchange plant of Houston is twenty per cent of the local exchange plant of the company, it means that the city of Houston has one fifth of the plant of the State.

Q. Doesn't it? Now, if it has one fifth of the local exchange plants and you allocate only-less than one tenth of the toll property to the local exchange, then you have taken one tenth of the property

and allocated it to other exchanges, haven't you?

A. No, you have got nothing to do with that. I haven't considered that proposition at all. It may have been that if Houston did not use any long distance business at all, they wouldn't have

1976 had anything to pay for.

You have got my theory there; it is the use of the lines. I could not tell that until I found out what percentage it was going to be; I can prove it by the Judge that we rise and fall on that proposition. I told him that that afternoon when we went over that proposition and I was most curious to find out that when I got to Dallas. I was amazed by your earning power on these tolls. I went into this thing, took my chances, if you get twenty, you are entitled to twenty. There is only one way to make a dozen eggs and that is by the number. You can't go and measure them by the box car or by the hen you have got in the copp.

The total figure of \$4,855,392.00 at the bottom of page 1 of my exhibit is just your investment that you are entitled to earn on in the vicinity of Houston; that is what you are entitled to earn on in Houston. I think that without that \$800,000.00 it is an excellent

value of your property what it cost you.

Q. I didn't ask you about cost, I am asking you about the fair value of it.

A. Well, you and I will have to agree on what "fair" value means, then.

1977 Q. Well, just tell us what you think the value of a piece of property is.

A. Well, are you referring to public utilities and public-the houses and lots?

Q. Anything, I don't care what.

A. The value of a property for rate making purposes is the money you put in it, and you are entitled to a return on the money invested.

In the case of a public utility, my idea of the fair value of a piece of property is the investment that you put in it. If I were employed to come here by the City and value the piece of property in Houston, I think that the figures which I found here are remarkably near right. I have been going over property for sixteen years and I don't think we are doing you any injustice by those figures. As to where I got my reproduction value of 1914,—company figures, I think we brought that out pretty well last time. Mr. Lyndon, the City Expert, and the Company furnished him those figures and

I asked for them, and I couldn't get them. I think I did look at

Mr. Lyndon's 1914 report.

With reference to what the figure \$2,672,211.00 covers, we identified that at one time; I don't remember now I think there was something left out, cost of the product of business, as you claimed it, was left out. You never have fixed a cost in this town, you know.

Q. So that the figures that you have here of \$2,672,211.00 that

you start with, is not a complete valuation of the plant?

A. Yes, that suits me, that is where I start.

Q. Mr. Kelsey, do you know that the figures that you start with were merely the figures for the physical telephone plant for the city of Houston?

A. Plus some little charges there.

Q. Do you know that it wasn't plus any charges at all?

- A. I think Mr. Lyndon came up here and sat in the chair and explained that, that it took into account everything you had except this fictitious cost of establishing the business, which this company
- never had.

 Q. Did you know that Mr. Lyndon made a report in 1914, in which he uses this language: "And the proper appraisal value of the Houston properties of The Southwestern Telephone and Telegraph Company is \$3,372,657.00 of which \$552,111.00 is an intangible value set up under the title 'Cost of Establishing Business,'

Now did you know that?

A. What I wanted was for you to give me the figures which you

agreed to do.

1979 Q. Well, those are the figures I am giving to you now.

A. Well, all those figures, I don't care whether it is \$650,-000.00 or \$1.650.000.00—

Mr. Howard: Mr. Frank, Mr. Kelsey doesn't claim to have gone over these figures and he has accepted them from the Lyndon report and from information that he has gotten from Mr. Lyndon. Now, Mr. Lyndon will be here, I expect him here Friday morning, and anything in that report and how he got at those figures, if he can't sustain them, why that voids that part of Mr. Kelsey's testimony because he has accepted an analysis of those figures.

Mr. D. A. Frank: But Mr. Kelsey has written down in plain letters on the first page of his Exhibit "Reproduction value, 1914 (company figures) \$2,672,211.00." Haven't you, Mr. Kelsey?

A. Those are all company figures, every one of them.

Q. Company figures?

A. Yes.

Q. Do you know that? There was miscellaneous property amounting to \$64,789.00?

A. I think that that is included in there.

Q. It is not included. Did you know there was working capital of \$73,555.00?

A. My impression is, that is in there.

1980 Q. It is not in there, I assure you. And that the cost of establishing business was \$552,111.00?

A. You don't call that cost, you call that good will too, don't

you, or growing value?

Q. It is cost of establishing business.

A. Growing value corresponds with it. It is a fictitious value.

You never had any cost of establishing business in Houston.

Q. I am not arguing with you, Mr. Kelsey. The total appraisal made August 1st, 1914, if you are going to use the Company's figures, would be \$3,372,657.00. So that your figures ought to be changed, oughtn't they, Mr. Kelsey?

A. No, my figures suit me wonderfully well.

The Master: Give me that total you just read.

Mr. D. A. Frank: \$3,372,657.00.

Mr. Howard: What is that?

Mr. D. A. Frank: That appears on page 3, of Mr. Lyndon's 1914 report.

Mr. Howard: But he accounts for that in other ways; he gives

you a cut up there, doesn't he?

The Witness: We identified this set up in the last hearing. Mr.

Lyndon came on the stand and identified it.

1981 Mr. Howard: All that, Your Honor, is a matter that is up to Mr. Lyndon. Now, Mr. Kelsey has largely accepted them from Mr. Lyndon's statements to him. Now, if Mr. Lyndon can't sustain them, Mr. Frank is right about it, but Mr. Kelsey, in the mean—

The Witness: I asked for those figures.

Q. Whom did you ask for them?

A. You.

Q. When did you ask me for them?

A. On the train. That's a habit you Bell lawyers have and its a bad one.

Q. Mr. Kelsey, I hate to dispute your word, but if you made any

such statement as that, I never heard it.

A. Look here, I never had that habit of repeating private conversations, but you said if those things didn't come to write you, or wire you.

Q. You didn't ask me, you might have asked Mr. Gates.

A. I don't think I ought to repeat that, I hate to introduce a miserable, contemptible thing like that. When the time came, I didn't get it.

Q. You were told when you were on the stand before that miscellaneous property amounting to \$54,789.00 had been left off, weren't you?

A. Well, what is the use of guarreling over \$54,000,00? What else?

1982 Q. Working capital amounting to \$73,555.00.

A. I think that is in there, because Mr. Lyndon verified that.

Q. But Mr. Lyndon didn't have it.

A. He covered everything except the cost of establishing business or good will.

Q. There isn't a penny here for good will.

A. Cost of establishing business.

Q. There isn't a penny here for cost of establishing business.

A. There ought not to be.

Q. There ought not to be and we know that. We didn't put it If those items set out, your report ought to be changed.

A. No, I don't change the report. Mr. Lyndon came on the stand

and fastened the record and I abide by it.

Q. Well, do you agree with anybody that the reproduction cost

of a piece of property has anything to do with the value?

A. That is one of the factors leading to an approximation of its value.

Q. What is the reproduction cost of this property here?

A. Well, you have got it down here in your books, your idea of it, you have George Player's opinion and all these opinions as to what it is.

Q. Did you look at any of them?

A. Yes, but you took an inventory in 1914 and the public utility law says that after one inventory the amount of money put in the property shall be added and the expense of making another 1983 inventory shall never be incurred and charged to the public.

Q. What one says that?

A. No. all of them.

Q. Is there one in Houston says that?

A. No.

Q. What is the use of quoting what they say somewhere else?

A. You are always quoting them.

Q. Just name one place where that is the law.

A. Mr. Wilson spoke of that very thing in Columbus, when the proposition came up of taking a new inventory. He said, "Oh, that has been fixed."

Q. Name one of the places.

A. Cleveland, Ohio, was fixed in 1914, and what money added in there, goes in there under your wonderful system of bookkeeping.

Q. Does that have anything to do with a confiscation case in

Texas?

1984

A. Well, if this is a confiscation case, I wish my property was in such danger of confiscation as yours.

Q. Answer the question about confiscation. A. Yes, the cases are confiscation cases.

Q. I didn't ask you that; I asked you whether the laws of Cleveland controlled in Houston, Texas.

A. But you have State's rights, you fellows all have State's right-down here.

Q. State whether or not it does.

A. I don't know whether it does, but the general practice in about

forty States and when those States adopt the law-

Mr. Howard (interrupting): Don't you know that the reason the Court gives for adopting cost as value is because it is difficult to ascertain reproduction value and that once you take cost value, obtain it, the rule doesn't obtain for adopting reproduction cost.

A. (Interrupting:) You fellows had a lot of hard work and hard

luck in that inventory of 1914. That fixed the record.

Q. We are talking about Houston, Texas.

A. I am, too.

Q. Just tell me why the reproduction cost of 1914 has any place in the City of Houston-

A. (Interrupting:) You have got it here, you took the reasonable value and applied that to it.

Q. Have you used it here?

A. I accepted it. I checked over your figures.

Q. Now, Mr. Kelsev, I want to ask you something else, if you know. On the same page in Mr. Lyndon's report, in which he says that the Southwestern claims that its property was worth \$3,372,-667.00, at the top of the page, he says that he finds that the present

value of the Houston Home Telephone Company's property amounts to \$797,173.00, did you know that the valuation that Mr. Lyndon is talking about here is prior to the time that

these properties were put together?

A. Yes, and it is in this other addition. I said in my other testimony that if this City ever admitted any other telephone system that they ought to pay for it, and they ought to pay for it, but it is in there.

Q. Are you sure it is in there?

A. You fight that out with Mr. Lyndon. Q. You are taking the figures here?

A. Yes, and if it wasn't included in this figure, we would have some awful high costs in there-

The Witness: This extension money, \$1,374,000 resulted in a gain of four thousand telephones.

Q. Did you know, Mr. Kelsey, that in addition to the \$1,374,000 that there was something like \$750,000.00 that is charged on the books as an intangible item, which is the difference between what was paid for the Home Telephone branch and what was actually taken on the books?

A. If you expend \$1,374,000.00 during all these years and 1986 only gain four thousand telephones, somebody-it is unquestionably in there, something is in there, something abnormal

is in that figure.

Q. When did we gain four thousand telephones? A. During that period.

Q. Between what years?

A. About 1914, from twenty one thousand to twenty-six thousand five hundred, I think.

Q. From twenty-one thousand to twenty-six thousand five hundred?

A. Just think now, an additional telephone oughtn't to cost as much as a full fledged fundamental telephone.

Q. Even when you have consolidation?

A. Yes, but that is in there.

Q. Even when you have a consolidation, you say you ought to do it for less money?

A. Oh, the expense of the consolidation in this town wasn't enough

to bother you along that line?

Q. Do you know that it costs us nearly \$300,000.00 to consolidate?

A. You paid some awful prices for independent companies. I ought to put that in the record, if I could. You paid something that you didn't have to pay for it, it was a wreck, it was a ruin, and somebody got paid for something that they had no business to get a cent out of. Why didn't you let it die?

1987 Q. I think I remember you saying that is the way you expected to get some money out of Philadelphia by our paying

a foolish price for it?

A. Yes, you would pay a foolish price for it.

Q. Just by waiting a little longer, we could get it for less money?

A. You tried every method to kill them. Why not let it go.

If you paid that much for this concededly miserable dying plant here, you are a bunch of suckers.

Q. We paid \$1,300,000.00.

A. It was too much. Then the public ought to be protected from such folly. There ought to be somebody responsible in a case like this, to deliberately throw away the \$1,300,000 on a concededly broken down plant.

Q. Just now you said if we purchased independent properties and saved the public from having such competition, the public ought

to pay for it.

A. Ought to pay a reasonable consideration, not an extravagant amount. The public are heedless. They will all vote for a bond issue or vote for an additional thing without realizing what they are doing, they ought to be penalized, but you have no right to give them a penitentiary sentence, when you get right down to brass tacks, if you haven't got something to show for it, you have been gold bricked.

Q. But where we have actually paid \$1,300.000.00 and \$600,-000.00 has been added to our plant and the other \$700,-1988 000.00 carried as an intangible, at least you haven't got the

intangible in this figure, have you?

Mr. Howard: It is admitted that that \$700,000 is not in this statement. Now, what more explicit and definite statement can you get than that?

Mr. Kelsey: I won't admit it. It seems to me there is something

must be there.

Mr. Howard: He says you have got it in there

The Witness: If the last forty five hundred telephones since 1914, have cost \$300.00 a station, somebody——

Mr. Howard: Well, it might be that they have got something in there that they shouldn't have.

The Witness: I am inclined to think it is in there myself. Let Lyndon settle that.

Q. Mr. Lyndon testified on page 1864 of the record, when Mr. Howard asked him the question, "Q. Now, Mr. Lyndon, that included part of what was known as the Old Home Telephone Company in use? A. No, that was prior to the purchase of the old Home Telephone Company." So that these figures-

The inventory values did not include A. (Interrupting.) that, naturally, but the money paid in since, of course, con-1989

templated that proposition, every dollar you spent on it. Q. Mr. Howard has just made the statement to you, which is correct, that the figures which you have here of \$4,046,771 don't include anything for the intangible and don't include anything for the cost of establishing business.

Mr. Howard: I didn't say that, I said that they don't include all of the Home Telephone properties, all that is carried into it, is the actual property that was in use, and that about \$700,000.00 which was a loss upon this value, is probably not in there.

The Witness: What could be more absurd than having a cost to establish business, since 1914? What has it cost to establish busi-

ness?

Q. The 1914 figure which you have used contains nothing at all for the cost of establishing business. Do you believe in using anything at all for the cost of establishing business?

A. No, not in this case.

Q. Do you believe in using anything at all for desks and auto-· mobiles

A. Oh, that is in your furniture and fixtures.

Q. Well, the figure that you use for the physical telephone 1990 plant was \$2,672,211.00?

A. No, he had all those figures.

Q. Now, the miscellaneous property, in addition to that was \$64,000.00 and the working capital was \$73,000.00. Do you be lieve in having working capital?

A. Absolutely, you have to have working capital.

Q. That was the working capital in 1914. Would the same amount of working capital be sufficient now?

A. Oh, yes, you have only four thousand five hundred more telephones than you had then. You are collecting in advance.

Q. Don't need any more working capital than we had then and it would go just as far now as it would then?

You don't have to A. Well, so far as you are concerned, yes. pay the Western Electric Company until they call for your money.

Q. Now, Mr. Kelsey, you have taken \$808,621.00 and added to the local property, making a total of \$4,855,392.00?

A. Yes. Q. Now, your idea of that is that that is the company's investment in the City of Houston?

A. No, I think that is about what they are entitled to earn in and around Houston and ever if your company is not only a local concern but a long distance concern and a banker, as well, they are in the investment business along with other things.

very versatile concern but it is a burden that the City hadn't ought to carry. The citizens of this town ought to arry a burden of \$4,000,000.00, and if they re-imburse you on that basis,

they will do you no injustice.

Q. In what capacity are you speaking when you say it ought? Are you talking as an invester, a banker, a telephone expart, an officer of the City, or an officer of the telephone company, or in what capacity?

A. Mr. Frank, have mercy.

Q. Well, just answer the question.

A. Now, read that question.

Q. (The question was thereupon read to the witness.)

A. I would take chances on a composite of all of them. them up and-

Q. (Interrupting.) You will take chances on a composite of all

of them?

A. Yes, I will figure them and give you a nice drawing of what you ought to get.

Q. Now, Mr. Kelsey, your idea is that the first cost of reproducing this property is immaterial?

A. You haven't had any cost of reproducing this concern.

Q. Answer my question.

A. You have never lost any money in this town

Q. Just answer my question. A. What was your question?

Q. My question is that your idea is that the cost of reproduction of property at the present time is immaterial?

A. Why, absolutely, never was material in the life of this com-

pany.

1992

Q. Does it make any difference at all in the trial of a case like this,

what it would cost to reproduce it?

A. No, sir. It is only one of the issues leading to it. It has no bearing at all. If you were talking about the Independent Home Telephone Company, you might have thought that those fellows made a hopeless struggle to establish business and loss. In other words, the successful company is always penalized for its success and the unsuccessful company-

Q. (Interrupting.) Reproducing the property at the present

time?

A. Oh, I am not talking about that at all That would not be any more, maybe, than it would in 1914, because in this particular case, an established business like this, running back to 1882, never had a factor of establishing business in it.

The reproduction cost theory is just another fine scheme on the part of the company to hook her up a little bit. It is not a conclusion at all, it is trying to find out something. 1993

know not as many companies have been as well run as yours for twenty-five or thirty years, but what they always make money. When a man subscribes for a telephone in our company, he would take it out for a year and we collected \$50.00 after the first of Jan-

We never have collections but once a year. Do you suppose a concern like that had any expense of establishing business?

Q. Now, Mr. Kelsey, I can't understand what connection there is between what collection for a telephone has to do with a reproduction theory.

A. Expenses that you lost and can't recover. You didn't lose anything. Now, you are trying to come back to the subscribers in Houston and ask them to recover something which was not lost.

Q. Mr. Kelsey, at one time you testified for the Memphis Tele-

phone Company, some old friends of yours, didnt you?

A. Yes.
Q. Now, assume for the minute that it would be possible that you were called to enter conference by them and asked to find a reproduction figure for their property. Just tell us what you would do?

A. They would pretty near have something because they lost money from the time they organized. Get back to your deficit theory again. They lost money from the start.

1994 Q. Go ahead and tell us what you would do.

A. If I was to, I would go into the deficit theory from the start.

Q. I haven't asked you anything about the deficit theory, or the

historical value.

A. I know, but that is the only way of getting about it. In this particular case, we don't need that.

Q. I am asking you about the reproduction theory.

A. Do you understand it yourself?Q. I absolutely understand it myself.

A. I said it was a fine scheme at this time to get a good value on your property.

Q. But assuming that the Memphis Telephone Company asked

you to find the reproduction value?

A. I would go over the historical value at once.

Q. To find the reproduction value on that property?

A. You betcha, because I would get better value on it than on the other.

Q. Just tell us exactly what you would do. A. I would go and capitalize their deficits.

Q. When you had the first reproduction value of the property?

A. Oh, no, the man that put the money into the plant, is entitled to a return on his investment.

Q. Can't you understand that question, Mr. Kelsey?

A. No, you are too abstruse for me sometimes, Mr. Frank. 1995 You wander off into transcendental things. I can't follow vou.

Q. I think I am rather practical. At least I am practical enough to keep on asking you to tell me you can or can't answer.

A. I will tell you that in the morning.

Q. Do you know what the reproduction theory is?

A. You bet, I have attended all the conferences with all these scientists.

Q. Just tell us how you go about finding the reproduction cost.

A. I will tell you in the morning.

Q. Don't you know now? A. Oh, I have reproduced; I have valued lots of them. years these fellows tracked into my office to get them.

Q. How would you go about finding the reproduction cost of the

Memphis Telephone property?

A. Why is that necessary? Q. But, Mr. Kelsey, we think that is necessary.

A. It is not though, it is only one of the ways to get at what these poor fish that went into the Memphis Telephone Company and put their money into it, lost. Now, we want to protect your investment.

Q. Won't you let me assume that it is necessary?

A. I won't in that case. Get away from Memphis. They lost

money from the day they were born.

1996 Q. Take the Houston case, or Dallas, or any other place.
A. Which one. The Bell or the Independent? You can't deal with one, the same as you do with the other. You fellows have always had a cinch.

Q. Do you know how to find the reproduction value of the prop-

erty?

A. You bet your life. Q. Well, tell us.

A. I will do that in the morning.

I would take a detailed inventory of the plant at Houston just as you have done here. The man who made the inventory would not apply the cost price; he has a man that brings him the physical apparatus and the cost unit men apply the prices. I apply my own unit brought in by my field men.

I say that I have made three hundred, probably so, yes, sir.

I was making these inventories for different Companies, all through Ohio and Indiana; principally for bankers and the getting my customers ready for the commission rule. You see, prior to 1910

everybody in Ohio and Indiana, and all through there, were 1997 getting ready for the commission. We got ourselves ready to

meet the commission.

Q. Then when you got through with these three hundred cases that you made appraisals of,-did you merely apply your unit cost and tell your clients that was what their property was worth?

A. Well, applied the unit cost—yes, about but you know most of my clients, Mr. Frank-I tried to tell you yesterday, that when you dealt with an Independent Telephone Company and a Bell Company, you have an entirely different condition. You can't es-Company, you have an entirely different condition. cape that proposition.

As a valuation expert it would make quite a bit of difference to me whether I was valuing a plant just exactly like this Houston plant—

a Bell plant, or an Independent plant.

If I were valuing a plant just exactly like this Houston plant for an independent company it would make quite a difference to me as to the conditions, and I will tell you why: The Independent Plant would be less valuable for this reason, because most of the Indepedent Plants were built by promoters and by construction companies, and as a result an independent plant has about a million dollars worth of property to about two million dollars worth of securities against it. Your Bell properties never were built by promoters. They were built honestly and come up from the

998 bottom with everything there and as a result the inventory

of a Bell property always shows more than the amount actually put in and the inventory of an independent plant always shows less than what they put in. But, if I were trying to find the value of the plant, irrespective of the money put in, if the plants were identical, it would make no difference whether it was built by an independent company or by the Bell Company, but that enters into the composition. We always try to find out what money went into the property.

Q. I am asking you nerely for the-

A. Oh, yes, you want to come in here and value this property, your plan is to apply the unit based on the last five years' prices, you would apply the unit to this town, based on a fourteen, fifteen, sixteen and seventeen price on an average.

Q. Well, now, let's get right back to where we were. When you prepare a proper inventory and have fixed upon your unit cost and material prices, and apply them, what would you call the result?

A. Well, that was one of the results, Mr. Frank. You see, that is only one way you arrive at—here is my problem and always has been, protecting the investor that put his money into this property. As I say, most of my clients have been independent investors, who

have invested money in property in Texas. Built by pro-1999 moters, fifty cents on the dollar and with that result. We found this reproduction value never would come up and fill the bill. We were then forced to go into the deficit or historical, because my clients always lost money in the ten years of their

existence.

Q. I am trying to find out, after you had applied your costs, and material prices to your inventory—

A. Well? But you would have practically your plant.

Q. (Continuing:) Well, would that be the value of the plant?
A. I don't know. We used that method to find out if that was the money that you put into it. You know you are trying to do something entirely different.

Q. We are not talking about money now. We are talking about reproduction cost of a piece of property. I'm trying to see if I can get you to tell me just what you have when you get through with

those figures.

A. We would have a property about what money was put into it. That would be the reproduction cost of the property, providing you didn't have years of loss in getting started; the loss wouldn't have anything to do with reproduction cost of the property—it would cost so much.

Q. Well, let's stick to reproduction cost. Now, wouldn't you take into consideration the fact that some property was slightly worn, or

rotted, or rusty, something like that? Would you take depreciation into consideration? 2000

A. Oh, if you really carry out the true theory of reproduc-

tion you would ignore that depreciation entirely.

Q. But the Supreme Court of the United States in Knoxville Water case, said that you couldn't ignore it, Mr. Kelsey.

A. Oh, they brought that in, yes, and I think it is a sensible view, but let's get back again, that removes all your happy consideration

of the case and gets you back to what the plant is worth.

- But in order to find out what the first reproduction cost of the property would be, you would have to take into consideration the depreciation. I would find out what the depreciation is by inspection, as my boys made these studies of the different properties, they would determine about what loss had taken place. They can take a brace and bit and tell what the condition of the core of a telephone pole is. They can take a spade and dig the dirt away from the pole and see if the pole is all right. You know I fell off a loose cross arm once,—fell forty feet. A man can examine a telephone pole and tell what condition it is in. He can examine a switchboard and tell what condition it is in; the only thing about a switchboard that would wear out would be your spring and jack and plug, otherwise, your switchboard would never wear out.

2001 A. No, no, no, I would not say that a man would have to tear a plant all to pieces in order to inspect it. If he took a bit or a shovel and removed the dirt around the pole that would be

a bare inspection.

Yes, I found out in the last fifteen or sixteen years most plants generally find themselves between ninety to one hundred per cent

Q. As a practical man, you could determine a good deal about the efficiency of a telephone pole, merely by making a little bore, you wouldn't have to saw all the way through the pole, in order to determine that?

A. Oh, no, I wouldn't do that, you have enough history of the reconstruction work about the telephones poles, you know. You have enough old poles laying in the yard which you have taken down, you don't have to-

Q. So that it is entirely feasible for an engineer by inspection to

determine the present condition of the property.

A. That is the only way that he can do it.

Q. Every other way would be wrong?

A. Oh, no, every way is useful. You can't eliminate any bit of information about it.

Q. Could a man stand in St. Louis, for instance, and never see the plant in Houston and be given some life and age tables and the amount of gross additions each year and net additions and determine the present condition of the plant in

Houston?

A. That wouldn't have a thing to do with the present condition of the plant, the life and age tables, because you are maintaining your plant all the time. A man sitting in St. Louis could know, maybe, one hundred years from now, that Houston was ninety per cent good, by the way you keep it up.

Some of the reasons for that are because your activity each year

in maintaining and reconstructing your property.

The junk value of the property is about 100%. When I left here and went to Jacksonville, I wanted to buy about five hundred telephones that I had sold to the Jacksonville Company for something like \$5.98. I found they were selling them for \$10.00. There was a new turn on this depreciation. It was worth more as junk than it was new.

A pole is the smallest part of your investment. Switchboards don't become inadequate, you put additions to them; they do not become

obsolescent, they haven't yet.

Supposing the time has come when you have to have an automatic switchboard and have to take out the switchboards here, it would

not then be obsolescent; you would move it out to some smaller town and use it again. These parts never wear out; 2003

they can't wear out. You cannot move a switchboard intact; you take it down and box up the cables. I have done it. You know your old Bell switchboard at Waco was nicely boxed and sent to Cleveland and it looked just as good as new. I couldn't tell it from the old; there is some labor lost, but it looks just as good as new; those soldered connections are a very small thing. On a switchboard, something like the size of the one in Houston, I wouldn't be surprised if there wasn't more than a million solders on it. I have soldered them by the millions.

When you got through and got back to the inventory and had applied your unit cost and material prices, you would have your repro-

Q. Now, if you had taken into consideration anything for depreciation, that is, for instance, if you state the plant was in ninety three per cent condition-

A. That is the usual condition of the Bell Plants.

You would have to take off about 7% off of it; I think you have taken it off,-you have a better plant than usual. I think the plant here is unusually good and I think Mr. Hoag's report shows it 94% good.

2004

Q. Ninety-two and something, not quite ninety-three.
A. That isn't possible. You have got to keep the plant

good in order to keep talking over it.

Q. Have you got the figures for the reproduction new, less depreciation? That would merely be the physical plant, wouldn't it?

A. Yes, that is about all you have.

Q. Now, if you were trying to find all the elements of value in the plant, there would be something else besides that, wouldn't there?

That is the only thing costs you money.

Q. The only thing costing money?

-. Oh, my, yes, you would need some working capital, you haw to have a little money, of course. That isn't denied. I think that is in here. Thirty per cent of all business fails for lack of capital, oh, it is quite reasonable that you would have to have some money.

Q. Then you would have to make an addition to the figure that

you found in order to have some working capital?

A. Oh, I think that is in there. I think that can be proven later on by Mr. Lyndon. At least, I asked Mr. Lyndon if that was in there and he said it was.

Q. Do you recognize an element of value in a plant that is in operation, that has an organization and is paying some

dividends, known as "going value"?

A. Well, you have no right to penalize the people of this town because you are successful enough to pay a dividend.

Q. Mr. Kelsey, I am not talking about penalizing the people. A. That is what you are doing.

I do not recognize that there is such a thing as "going value"; I don't recognize that at all, that is a substitute to fill up balance sheets

quite a lot, and good will and going value.

Q. Mr. Kelsey, if you as a purchaser, would start to buy this plant, or any plant, and had agreed to pay a round sum for this plant, and had gone through the operation of finding what the reproduction cost was, less depreciation, would amount to——
A. (Interrupting.) That wouldn't be enough history for me; if I

bought it, I would want to look into the history of the plant from

year to year.

Q. And in addition, you had accounted for a sufficient amount to cover the working capital and the deeds were ready to pass, you had agreed upon the price, was satisfied with the price, and just as you were ready to hand over your check, the man who is to sell this prop-

erty to you had told you, Mr. Kelsey, you have figured only on the physical property, and I need all my employees some-2006

where else and need all of my books somewhere else, and I have moved every employee out of this own to another town where I need them and I have notified every subscriber in town that his contract is cancelled and I have accumulated the instruments and put them in a warehouse and you have all the physical property which you have appraised, would you take the property?

A. That is a very far fetched proposition. No, I would have at least thirty days and I could replace the whole bunch.

Q. Why wouldn't you take it?

A. I would be very foolish to come into a property where you took all the instruments away.

Q. Well, we put the instruments in the warehouse for you.
A. I would want the instruments in. No man buys a dead plant,

he buys a live one.

Q. In other words, you would think that having a credit manager, and having some prices and having a stock of goods, that the people are familiar with, and having a reputation for fair dealing, and having proper location, you would think that all those things would be worth something over and above the mere physical goods on the shelves would be worth?

A. Not necessarily. I have noticed that whenever a new owner takes over a property, he fires about se-nty-five per cent anyhow.

does that, even the Bell Telephone Company.

67 - 219

2007 Q. But still he would have the going value of the concern?

A. Oh there is some sense to that, of course. As long as any business runs and operates and makes a living, it has a value to the owner, not to the public. Not to the public. You know you are dealing with the public. This is a public service corporation. You can't apply this dry-goods proposition to it.

Q. Now, Mr. Kelsey, take a town like Chicago, your own home town. If a man had a franchise to do business as a telephone com-

pany--

A. He would be ruined.

Q. (Continuing:) And went into Chicago and established a plant in one section of the town, whatever he desired to serve, equal to the Houston plant in every way, but had no subscribers, would the plant be worth as much as the Houston plant is worth?

A. Yes.

2008

Q. Without a single subscriber?

A. Yes, because they would be begging for service.

Q. They would be begging for service?

A. Your only problem would be to get the telephones to them, Mr. Frank. The problem today everywhere in the United States is, to give them service.

Q. Don't you have to educate some telephone girls?

A. On no, that was twenty or thirty years ago. That is why I wanted to go into the history of this plant.

Q. Don't the telephone girls have to be trained?

A. A bright, average American girl can operate an exchange on twenty-four hours' instruction.

Q. Can a girl get on a big telephone board like the Preston Exchange and operate it twenty-four hours after she had seen it?

A. Oh, yes, you bet. It isn't a wise thing to do it, but she could do it, in a pinch.

Q. We ought to get a slave driver for them?

A. That's just the thing. The Bell Company needs a slave driver from President, down, the laziest organization in America.

Q. How many calls ought a girl to handle in a day?

A. She ought to handle a thousand, average a thousand and you oughtn't to have to carry her out to a hospital either, when she does it.

Q. How many do they handle in Cleveland?

A. About two hundred and thirty-one.

Q. Would it surprise you to know, Mr. Kelsey, that in the City of Houston, they are handling an average of over a thousand?

A. They are not.

Q. Are you swearing now, or just guessing?

2009 A. I am swearing, because from the records I have seen there, you run about five hundred calls.

Q. How did you get your figures?

A. From the number of girls you have on your pay roll and your peg counts.

Q. But you know that while we might have five hundred girls

employed, some would be sick, some on absence-

A. We all of us know how much a girl is sick and they are all working, in the scarcity of girls, you crowd as many working days in as you can. The girls are working girls. There has been no change in the construction of a girl operator since 1898.

If I were employed by the Memphis Telephone Company, or some other telephone company that I am friendly with, I would not allow anything for going value, in all probability, it would not be necessary unless you had losses in your youth.

Q. Suppose there had been no losses at all, Mr. Kelsey, and the President of the Company was trying to find the fair value of his property, merely so he could acquaint his stockholders with the value of his property, he asked you if there wasn't some element of value known as "going value," what would you say to him?

A. The only element of value that I possibly could show to 2010 him would be some way of getting his subscribers dividends,

that is, what they want.

Q. He is not talking about dividends, he is trying to find out what the property is worth?

I do not know if the Supreme Court of the United States is wrong when it says there is an element known as "going value." You know I have all the respect in the world for the Supreme Court, but when one crowd votes five for and four against, it kind of puzzles me a little bit.

Q. But these opinions are reached-

A. (Interrupting.) In that case—every case in America is a legal

Q. But is a question, an engineering question, like a question as to whether or not a plant has "going value"? Is that a legal question?

A. Practically yes, according to how much money you lost trying

to start this service and give people service.

Q. Just analyze that statement a little bit, assume that in two cities, A and B, they are about the same size, and one of them has been operating for twenty-five years and from the very beginning, after the preliminary two or three years, when no company makes

money, that from the beginning, after it got established, it 2011 ran a dividend of say eight per cent, sometimes ten and some-

times six, it averaged for twenty-five years averaged eight per cent, that is the town "A," in town B, a town of the same size a plant of the same history practically, the same length of time, for twenty-five years, say, people didn't like the service, or the rates were not properly adjusted, and year after year after year, the company that operated in town B, lost money so that over a period of twenty-five years it made an average of only about three per cent. Now, is this your idea, that the plant in town B, would have a higher

going value than the plant in town A?

A. Neither of them would have it. As a matter of fact, under the law, that B town would have the right to capitalize its deficits for the twenty-five years and put it on the same footing with the successful company; in other words, the law penalizes the successful company and praises the unsuccessful company?

Q. What law does that?

A. The utility law. Q. Which utility law?

A. Oh, all over.

Q. In what State? A. All States.

2012 Q. Name one State.

A. Every State in the United States, Ohio and all, I have worked on the deficit theory.

Q. Wisconsin?

A. No, Wisconsin-

Q. Does Missouri work on that?

A. Yes

I don't know about Arkansas. We had the deficit theory in the Emporia case and the Columbus case: they needed this deficit theory. With reference to Kansas, I say that we worked on the deficit theory in the Emporia case. I was assisted by Jim Noble, one of the best engineers in the world, and he worked for you folks; or I assisted James, I don't know which.

Under the law, my idea is, that a plant that loses money for twenty-five years is worth more than one that has made money, because one can capitalize its deficits and get a higher rate, really,

than a successful company can.

Q. Now, I want to call your attention, Mr. Kelsey, to the fact

that you are swearing.

A. I understand that I am under oath, absolutely under 2013 oath, and I have every respect for this Court, I am telling exactly what is what.

Q. Now, just tell me one single State where you have ever seen in the law, such a law that authorizes you to capitalize your deficits.

A. My goodness, that has been done time and time again in Wisconsin. It is one of the factors-

Q. That isn't the question that I asked you.

A. I am not a lawyer, you know. I know nothing of the law, but I know of the law's practice, that when I went into this case in Indiana, in the telephone company case in ——, we capitalized all those deficits, and showed that for ten years we lost money every year, and we capitalized that deficit and added that to the capital account.

Q. I am not asking you about any of that.

A. I say, I am familiar with the practice of the law, and my construction of it, Mr. Frank.

Q. I am asking you about what State has such a law?

A. I don't know, I never had time to look into the law; I have been busy with other things.

Q. So far as you know, there is no law that authorizes a capitaliza-

tion of deficits?

A. Well, there must be in Illinois, because time and again
2014 I appeared as attorney myself, and took my client's case on
the basis that he lost money from year to year.

Q. Well, that was merely an argument to the Commission?

A. Oh, yes, but I know they adopted it.

Q. Did you look at the law and see if there was a law to that effect?

A. I never had time to look at the law; I think there is twelve thousand—new laws appeared on our books in the last few years.

Q. So that your statement is, that every State in the Union had that law, except the State of Texas?

A. Except Texas.

Q. (Continuing:) Was slightly in error.

A. No, I think that the spirit of my answer was absolutely right.

Q. Do you know of a single State that has that law? I would like for you to mention it.

A. I have always worked on that theory in the States, I mean Ohio, Illinois and Minnesota, these conditions were always accepted, because these independent companies would be absolutely ruined.

Q. (Interrupting.) You mean they have present- an argument?

Judge Powell: He didn't say it is a statutory law, he said that is a utility law.

2015 Mr. D. A. Frank: There is no such law in the United

States.

Judge Powell: There are a good many laws that allow them to capitalize their deficits.

A. (Continuing:) And they have - by this method; this repro-

duction theory would never get them anywhere.

Q. Now, Mr. Kelsey, just tell us what the deficit theory is.

A. Well, a man starts business with \$100,000.00; at the end of the year, he loses doesn't he? Then he is entitled to eight per cent, so the losses and his dividends he adds to the one hundred thousand, and he begins his second year with probably \$115,000.00; then he operates during that year and the losses he has plus the income for that year, he adds it and so on.

Q. On down?

A. To the hearing.

Q. Well, now, if these two plants that I have assumed in towns A and B, they each one of them cost \$2,000,000.00 and one of them has made money for its stockholders for twenty-five years and the

other one has lost money for its stockholders for twenty-five
2016 years, but the plants were practically the same, about the
same number of subscribers, and so forth, would you pay just
as much for the one that had lost money as you would for the one
that had made money?

A. The subscribers would probably pay a higher rate for that

poor one than they would for the good one.

I would not necessarily pay just as much for the one that had lost money as I would for the one that had made money, but after the readjustment, I probably would, because the rates would be higher, and the returns would be a little higher. I would not pay either one of them, I don't think that is a fair question. I would not pay either one of them.

Q. Suppose you represented an inventor that wanted to buy prop-

erty?

A. You mean, in this sense, to sell his stock?

Q. No, I mean an investor that wanted to buy a telephone plant.

A. Well, there's lots of them, buying lots of them and selling lots of them. You try to buy a telephone property and you pay a magnificent price for it, Mr. Frank.

Q. Well, I am assuming that you represent a man that is able to buy one of these two plants, now, would you buy if you could

get them at the same price, would you buy the one that had been making money, or the one that had been losing money?

A. Under the law, I would buy either one of them, be-

cause you would be entitled to a return on your investment in either case.

Q. You wouldn't make any difference?

A No, if the thing was administered and adjusted according to the public utility law, they would both be just the same.

Q. Under your theory of early deficit, the one that lost the money

would be worth more, would it?

A. Why, pretty near it, that is the way it worked out.

Q. Does that appeal to your mind as reasonable?

A. Absolutely reasonable. I am not saying it is right, but I tell you the company in this country today that has lagged and lost money, stands a better chance before the Court and the Commissions to get a higher rate than the company that has always maintained its property well.

Q. But I am trying to find out the company that stands before you, as an engineer, in fixing valuation, which one would get the

highest price?

A. They would both come out just about the same. Q. What is the use of your deficit theory, then?

A. Well, your deficit theory through the years is the the 2018 only way of getting at this proposition.

Q. What is there in the deficit theory—

A. The stockholders have put the same amount of money in each plant, haven't they?

Q. But we are trying to find the value of the plant.

A. You are trying to find the value of the plant and by and by

when we get this new rate adjustment in force and the return is the same and the stock probably would be worth just the same.

Q. Although one had lost money for twenty-five years and the

other had made money for twenty-five years?

A. Yes, after it is once correctdd.

Q. And it is the same property and the same size?

A. The stock would be worth the same in each case.

Q. So there would be no advantage in finding the early deficit in

one plant as compared with the other, would there?

A. I am merely saying that it is one of the peculiarities in this telephone business. You have never had this graft and bonus stock, your Bell properties have always been well run. In the other cases, however, they have, they have got the same investment in the same plant, but one has been rifled and robbed and the other has not. You are trying to get protection, but it don't need protection because it had a little better luck, probably had better management.

Q. So as a valuation expert you would put the same value

on both of them?

A. Yes, for rate making purposes

Q. We are not talking about rate making purposes.

A. That is the only way you can consider it. There's only two ways in which to consider it, for taxes and for rate making purposes.

Q. Yesterday I understood you to say that we make a few P. B. X switchboards?

A. You bet.

2019

I mean my little company. We probably made fifteen or twenty switchboards last year. We don't want to make them, we only make them for accommodation. As to how big they are on the average, oh, about two hundred, three hundred, four hundred; we only do that when people can't get them from the old companies, and it is an accommodation. We have been making switchboards seven years. This little company and I have been making switchboards and working on them ever since 1898. Our switchboard manu-

facturing is growing wonderfully.

2020 It has been since 1914 since I sold switchboards for the Kellog Switchboard Company. I did not begin making them myself about the time I quit the Kellog Switchboard Company; I retired a while. I had made a little money, I had quite a little bit of money, I had quite a little,—quite a little bit of money and I thought I would rest, but I couldn't stand it any longer.

As to how long it has been since I sold a switchboard with ten thousand lines on it, well, let's see,—along about twelve, I think we put two, five thousand lines in Philadelphia, but we figured on them right along, you know. I think my last sale was San Parlow.

Q. You said yesterday that in order to sell a switchboard of that kind, you would not need any overhead expense, you would not need any engineering, no specifications, all you would have to do would be to find out the number of lines and multiply it by forty?

A. That is all; I don't know anybody around here that had anything to do with a switchboard.

Q. Would it make any difference whether a switchboard was going to serve a town where the calling rate was five or ten—

A. (Interrupting.) You have a cross connected frame 021 to take care of that. You specify all that.

Q. You would want some specifications would you?

Ves 1

Q. Would it make any difference whether your switchboard was located, part of it, on one floor and part of it on another floor?

A. It wouldn't make any difference, we would get a floor plan in

each case.

Q. Would it cost any more?

A. Why no, you have one board on one floor and another on another there is nothing mysterious about this switchboard business; it is almost as simple as buying and selling eggs and meat.

Q. I believe you stated that if a man started to build a building

he would not have to get any plans?

A. A building that would come under architects' plans; that is something done locally.

These switchboards aren't very special things,—standardized; been standardized for twenty years; the construction of the switchboard is very much simpler as compared with the construction of a building. Why I would a good deal rather undertake to

building. Why, I would a good deal rather undertake to 2022 build a switchboard these days than I would a building, when you consider the labor union and fight on the jurisdictional scrap between the paper hangers and the brick layers and

dictional scrap between the paper hangers and the brick layers and door hangers, your switchboard would be free from all that. You would not have to have specifications to build it; you give an order to the manufacturer and he makes them all.

Q. You would have to have specifications to build it?

A. No, you give an order to the manufacturer and he makes them all.

Q. Don't you furnish him with any plans at all?

A. He merely looks them over; his action in buying a switchboard

is almost infinitesimal.

Q. When you let the contract for the ten thousand line switchboard, that you referred to just now, do you just agree to a certain price on it, without looking at it?

A. Why, yes. This Keystone, this proposition they sent us there what they wanted was for it to be built and put in and give us the

money for it.

Q. Referring just a minute to this reproduction theory, did I understand you to say that you would not consider that in finding the value of a piece of property?

A. I said that's one of the considerations. Q. That is one of the considerations?

A. In view of the early history of the property. can't make any one rule infallible in this case; in the case 2023 of the Bell Telephone Company reproduction new is a fine

thing.

Q. Tell me whether or not you agreed with this statement; "The first method of valuation, namely, actual cost, less depreciation, is favored by engineers and public service commissioners. method, however, has not the sa-ction of the Court. The decision of the United States Supreme Court, which is the final tribunal in America is that the value of a public utility for rate making purposes is the reproduction cost less accrued depreciation." Do you agree with that statement?

A. Well, I suppose that is a statement made-

Q. (Interrupting.) This is a statement made by Mr. Lyndon, in his 1914 report on page 56.

A. I don't think any Court would dare even to fix such an un-

stable rule as that.

Q. You don't think any court would?

A. I don't think they would after mature deliberation, ever fix any one factor in this valuation theory. Now, I tell you at this particular time, reproduction new is a fine thing for the company. Ten years ago it was not, because, you see, the prices have gotten higher.

Q. Is Mr. Lyndon right or wrong in the statement?

A. I never saw Mr. Lyndon until he came down here.

Q. Ever see him here?

A. Oh, yes.

2024 Q. Is Mr. Lyndon well known in the telephone world as a telephone expert?

A. I never heard of him in the telephone business as an engineer? Q. Did you ever have-in all of your experience as an editor and telephone engineer, did you ever know of his doing anything in the telephone world?

A. Yes, his contribution to the storage battery is a very important

part.

Q. As a telephone expert, Mr. Lyndon is a good battery man?

A. I think he is an excellent gentleman and an authority in these matters. He is an authority in electrical matters. He was in Mr. Edison's labratory, working as a consulting engineer. I know Mr. Thomas Edison wouldn't have a dummy in there, assisting him in all his different problems. I think Mr. Lyndon is a very remarkable young man.

Q. But he isn't remarkable as a telephone expert?

A. Oh, he didn't have time. You were accusing me of being a banker and everything else. I don't know why you did that.

know I worked,—I was afraid of poverty.

Q. Mr. Kelsey, what was it I understood you to say about the conduits and duct foot? What was the price you said you ought to pay?

2025 A. Oh, I said that just along in 1900 the entire duct system frequently was built for eighteen or nineteen cents a foot, duct foot, including man holes, too, Mr. Frank.

Q. Was that for a single duct foot?

A. No, no, that was all, they had as high as thirty-six ducts I think in some places they had seventy-two ducts in one trench. You know these people build with some sense, too.

Q. Now, Mr. Kelsey, you picked out the best item?

A. I just took the top item there.

Q. On Page 51, of Mr. Hoag's appraisal?

A. Yes.

Q. Exhibit No. 18, where it said two ducts-

A. Trench with two ducts in it.

Q. Trench,-two ducts, trench feet 1,254, 1.42 cost in place?

A. Yes, that average would be 71 cents, wouldn't it?

Q. Yes.

A. Well, add them all up-

Q. (Interrupting.) Look at the six duct and you will find there 2.28, that would be about forty cents?

A. Be about forty cents,-well add them all up.

Q. Now take 10 duct, it would be 3.21, or thirty two cents a foot?

A. You are getting down to reason, yes.

Q. And if you had twenty ducts, it would be 4.75, or twenty-three cents a foot?

A. You are getting down to pretty good figures.

Q. And if it was forty-two ducts, it would be \$7.80, or about nineteen cents a foot?

A. You are getting down to some sense there, Mr. Frank, but the thing to do is to add them all up and to divide them and get the total average. You start awful high.

Q. Let's see if we do, the two duct, we have only 1,254 trench

feet in the entire system.

A. That is about all you would have.
Q. Of six duct, we have 25,482 feet?
A. Yes, considerably more than that.

Q. So that your criticism, it sounded like our prices were too high when you analyze it it shows that the prices are not too high?

high, when you analyze it, it shows that the prices are not too high?

A. I haven't had any time in this case to take into consideration all of your prices. Your prices are always high in Central Office equipment, when it comes to duct and cable, you always are fairly reasonable.

Q. Yesterday you said you thought it was too high?

A. We were only talking about the top line. I said that I found it \$1.42 cents, and I said it looked like 72 cents. It was your business to come and show the facts.

Q. Well, we have shown you, haven't we?

A. I don't want to sit here with the idea of even deceiving you.

2027 Mr. D. A. Frank: You are not deceiving me; I am not easily deceived.

When we start to build an eight thousand line switch board, in order to determine how long it should be we have got so many

lines per cabinet, so many cabinets; it is specified, all cabinets have a standard measurement, six feet long, I have forgotten now, but I could get you that very quickly. The number of lines and positions and the number of positions per section determines how many different panels you have; that would be true in all different panels. Some boards you have fewer lines to the positions; the fewer calls you have, the fewer lines you have to the positions you have; we have some boards we fill six lines to the position. You would practically have to know what the calling rate is before you could determine what the switch board should be, but we would not know exactly. Not all positions have the same number of lines, you know. There is nothing mysterious whatever about the number of lines in cabinets. We have cabinets made of oak and mahogany. That old Waco cabinet of yours fitted into C'eburne without anybody being able to find it.

"Q. Now, you said yesterday that the Preston Exchange switch board would cost \$450,000.00, and that the Capitol would cost \$150,000.00; now, Capitol has 4,500 stations."

"A. I took the number of lines and multiplied it by dif-

2028 ferent figures.'

"Q. Now, how did you get \$150,000.00 for Capitol?"

"A. How many lines is that?"
"Q. Forty-five hundred."

"A. I think I put that down at about thirty thousand lines."

"Q. Do you happen to know that while there are forty-five hundred lines at that switch board, it is merely a division of the Preston switch board?"

"A. Well, it has so many feet of cable, so many cabinets."
"Q. But it is just the same as having nine thousand on Preston

and forty-five hundred on Capitol?"

"A. All right; add the multiple jacks additional in there, twentyfive cents per jack, and you have got it."

"Q. But it is really a thirteen thousand five hundred switch

board?"

"A. Oh, no, sir; it is a forty-five hundred line board with a multiple distribution coming from another board, making it a ten thousand multiple. You couldn't make more than ten thousand in your board, because you would have to get a girl on a step-ladder to get any higher. We build eighteen thousand boards."

"Q. You have not seen the switch board, have you?"

"A. Oh, no; I have seen switch boards?"

"Q. Do you know what they cost?"

"A. You mean Western Electric cost, or what I would pay

2029 on such a job?"

"Q. I mean if one was exactly as expensive a panel as the other, would you change your mind on it?"

"A. It could not be."

"Q. But if it actually is?"

"A. No, I don't know as I would."

"Q. You wouldn't change, even though it actually cost more?"
"A. It wouldn't make much difference in the proposition, even

at the maximum; no, it wouldn't, I wouldn't change that at all." "Q. Now, there is some other equipment there amounting to \$23,000 that you did not consider."

"A. Oh, ves; oh, sure. To keep operators' desks and information

desks and trouble desks and all the other desks.'

"Q. Then, there was some construction in progress, amounting to \$45,000.00?"

"A. That is probably in there; that is in another item, you know," "Q. Another thing that you did not consider was the "B" board?"

"A. Oh, yes, there is a "B" board in there. It is always "B" boards when you have more than one office."

"Q. But you did not count the "B" boards?"

You know the "B" board has "A. Oh, yes, I put them in there. a certain relation to the "A" board."

"Q. The prices that you are giving here -\$30.00 and \$40.00 a

line; how do you arrive at those prices?"

"A. Why, from our present standpoint of value."

"Q. That was really the figure you used seven years ago, 2030 wasn't it?"

"A. No; Kellogg is still building mannikin switch boards; they built a switch board for you at Tulsa."

"Q. You have not sold a ten thousand switch board since 1912,

have you?"

"A. Yes, but we bid on them; the company does, -my old associates."

"Q. Who bids on them?"
"A. The Kellogg."

"Q. But you haven't been with them-

"A. (Interrupting.) I know, but I am still in there in a consulting capacity."

"Q. Do they have to come around to consult you as to how much

they will charge for a switch board?"

"A. Oh, no; but the President and I discuss all of these problems."

"Q. The figures you read yesterday for Preston, \$400,000.00; Capitol, \$150,000.00; Taylor, \$87,500.00; Hadley, \$200,000.00, making a total of \$887,500.00; then other equipment would be \$23. 000.00; construction work in progress, \$49,400.00, and if we think that our "B" board at Hadley and Taylor would be worth \$50,000.00 and at Capitol \$30,000.00, that ought to be added, because it is \$40.00 a line instead of \$30.00 a line; that would make your figures run up about \$1,039,000.00 without any overhead?"

"A. I am telling you, in hot competition that the Western 2031 Electric would have built that board at that figure, or less."

"Q. Well, for the purpose of the record, and in order to let you see what has been done in this, I want to read just a little excerpt from Mr. Lyndon's report of 1914, beginning on page 146 at the bottom, and see if you agree with what he says: "In valuing the Central office and sub-station equipment, we have taken the figure submitted by the Southwestern Telegraph and Telephone Company as the proper value of the equipment, including all overhead charges. We feel sure that the figures are too high, but there are only two companies in America prepared to furnish Central office apparatus of the character and magnitude in use by the Southwestern Company, namely, The Western Electric Company and the Kellogg Switch Board and Supply Company, both of Chicago. The Western Electric Company is practically owned by the American Telephone and Telegraph Company, and therefore we did not apply to this Company for quotations on similar equipment, feeling in advance that we could not obtain figures for our purpose that would show any material reduction below the cost submitted by the Southwestern Company. Quotations were obtain- from the Kellogg Switch Board and Supply Company, and this Company accorded us every courtesy in making up quotations for us. To make an estimate of this character of equipment delivered and installed, together

with all the cable, wire and accessories, is a long and tedious process, and we could not expect any manufacturer to make

such a close estimate for general estimate purposes as it would if there were a prospect of a contract for the material. The Kellogg Company's quotations, when loaded with overhead charges, came so near to the figures given by the Southwestern Telegraph and Telephone Company, that we have considered it better to accept the Southwestern Company's costs. We have obtained considerable information about the cost of other exchanges of approximately the same size and character, and from these we believe that the actual reproduction cost of the Central office and subscribers' equipment would be from \$65,000.00 to \$75,000.00 less than the figures which we had adopted. In the absence, however, of proofs based on definite quotations, we have no option but to accept the figures of the Southwestern Company, which we have accordingly done." Now, there is where—"

"A. (Interrupting.) Mr. Lyndon got the engineer's estimates,

you know."

"Q. There's where Mr. Lyndon made an investigation and decided that our figures were lower than the Kellogg Company's."

"A. Oh, yes, he went to the Kellogg and asked them to do a lot of work on something; they turned them over to the engineers and they gave them what they call the list price. The list price and the selling price have no relation whatever."

"Q. So you think the Kellogg Company put one over on Mr.

Lyndon?"

2033 "A. They didn't put one over him; they didn't pay any attention to him, because he was no possible customer."

"Q. Why didn't they inquire the number of jacks?"

"A. Absolutely a hopeless proposition. Why, why should they waste their time answering a question about Houston for? They are sensible and they have to work for a living. They wouldn't waste thirty minutes. They turned it over to some engineers who loved to keep themselves busy,—to keep their jobs going."

"Q. Why didn't they turn it over to the Sales Department?"

"A. The Sales Department might have answered it that way, but it got into the engineers' hands. The engineers never know what

the Sales Department sells at; they would not waste a minute on this thing."

Mr. Howard: You are talking about manufacturing; you manufacture this stuff?

Mr. D. A. Frank: We are interested in knowing the manufac-

turer's cost, not the sale cost. The Witness: You can't find a buyer who is going to waste any time on it.

"Q. When you said yesterday that a telephone instrument could be made for fifty cents, what did you mean by that?"

"A. A telephone instrument?"

"Q. Yes,—you said a transmitter could be made for fifty cents."

"A. It can be."

"Q. Is that the shop cost?" 2034 "A. Manufacturer's cost."

"Q. Then you said immediately afterwards that in order to find the selling price of any manufactured article you multiplied the shop cost by five?"

"A. Yes, that would give you shop cost about twenty cents if you

are selling it for a dollar, you know."

"Q. Did you ever know of a new transmitter being sold for fifty cents?"

"A. No, but they sell them for a dollar."

"Q. Did you say that the testimony in the Cleveland case was that they were selling them for \$5.50?"

"A. That is Mr. Wilson's testimony; they are selling them in the

open market."

"Q. But that was before the dollar went up?"

"A. No, no; they are still selling them; anybody would be a fool for selling a transmitter for a dollar when you could get \$1.65 and \$2.00 for them."

"Q. You are selling them yourself?"
"A. Yes, sir."

"Q. Selling them by the hundreds of thousands?"

"A. No, no; I said that I had sold them. I sold something like one hundred and twenty-five thousand a year in my late Kellogg days."

2035 'Q. How long ago was that?"

"A. Up to 1914. No man keeps on as Sales Manager forever."

"Q. You are selling telephone instruments now?"

"A. Oh, yes, but we have got a small shop; we sell about five thousand telephones a year."

"Q. Are you making any of them new?"

"A. Some parts."

"Q. But the entire instrument?"

"A. Oh, no; we find that we can make more money by buying telephones that you folks throw away."

"Q. What do you pay for them?"

"A. Fifty cents."

"Q. Fifty cents for instruments?"

"A. Yes, sir."

"Q. And what do you sell them for?"

"A. A dollar."

"Q. Those are second hand, aren't they?" "A. No, they are not second hand."

"Q. You said the ones that are thrown away." "A. Not thrown away,-not needed any more."

"Q. The ones that are not needed by us and antiquated, you take and sell them for a dollar?"

"A. Nothing antiquated about a receiver and transmitter."

"Q. What would a receiver and induction coil that has been worked over by you sell for?"

"A. Two dollars and fifty cents."

2036"Q. That is just the induction coil, transmitter and receiver?"

"A. The rebuilt cost,—yes: the sale cost of 1914."

"Q. That is for all three of them?"

"A. Yes, sir."

"Q. Now, the new price, according to Mr. Wilson's statement, was, on the market, \$5.50?"

"A. The theory of a rebuilt pricing is usually seventy per cent

of the new."

"Q. How much?"

"A. Seventy per cent of the new, possibly." "Q. Seventy per cent of the new?"
"A. Yes, sir."

"Q. Do you sell any new instruments at all?" "A. Oh, yes, we have lots of new instruments." "Q. What do you get for your new instruments?"

"A. You can't tell a new instrument from a rebuilt instrument."

"Q. What do you get for your rebuilt instruments?"
"A. We get them in lots from the Western Electric Company."

"Q. You buy them new?"

"A. Yes, sir.'

"Q. And then sell them at seventy per cent of what the Western Electric Company sells them for?"

"A. That is about what our price is."

"Q. What do you get for a set new?"

"A. We get \$10.00, flat."

2037

"Q. Well, let's eliminate the part that we are not talking about; let's take the transmitter, receiver and induction coils; what do you get for that brand new?"

"A. We don't sell them brand new. We sell all transmitters for a

dollar, all receivers for one dollar, all coils for sixty cents."

"Q. But do you actually buy new receivers, transmitters and induction coils, like you have them here in Houston?"

"A. Oh, yes."

"Q. From whom do you buy them?"
"A. Oh, we repair——"

"Q. (Interrupting.) I am asking you about brand new ones."

"A. They are practically brand new ones."

"Q. I am asking you whether or not you buy brand new ones."

"A. No. What do we want to buy brand new ones for?"

I think Kellegg got their price up to \$1.95 for transmitters, \$1.95 for the receiver and sixty cents for the induction coils, which would be \$4.60 per set.

"Q. Would it be interesting to know that that is the exact figure

that Mr. Rhodes used in this case?"

"A. Why, Mr. Rhodes uses a great many figures since 1914."

"Q. Four fifty is just exactly the figures that he used; that would not be sensible?"

2038 "A. No, that would be a very sensible figure for the present

price."

"Q. Have you figured what the carrying charge on that instru-

ment that costs \$4.50 is?"

"A. You haven't two instruments in this house that cost \$4.50. Twenty thousand of these instruments in this town were put here under that dear old price, you know."

"Q. Mr. Kelsey, I am not going to argue with you about that, but

the facts are quite different from that.'

"A. They are not."

"Q. But let's assume that you start with \$4.50 as a figure; now, as an engineer, tell me what the carrying charge would be on that instrument."

"A. I am not caring a rap about a carrying charge. I made this statement, that I put in fifty cents, because you were tickled to death to lease these instruments to anybody for fifty cents a year."

"Q. Does your mind work enough to---'

"A. (Interrupting.) My mind can't work in comparison with yours, I am sure."

"Q. Can't you believe a \$4.50 charge on an instrument and tell me what the carrying charge would be?"

"A. Yes, but you didn't pay that for it."

"Q. Regardless of whether we paid that for it or not?"

"A. Here's your cost of the instrument; the Bell Tele
2039 phone Company has its own report, you know. They carry
all their instruments on their books at about \$2.42; that is
about what they cost."

"Q. As an engineer, you can certainly calculate what the carrying

charge would be on \$4.50."

"A. Well, I could if I would."

"Q. If you can, let's see if you will or not? What amount would you charge for maintenance of one of those instruments—"

"A. (Interrupting.) That maintenance is all taken care of down

in New York by the Western Electric Company."

"Q. But we are assuming that New York has nothing to do with this. This is an independent company, now. This is a fellow that bought one of these instruments; he is down here at Port Arthur, now, and he has taken a notion that he can buy his own instruments, and he has bought them and at the present time he has paid \$4.50 for them, and—now, tell me what the carrying charge on it would be?"

"A. Well, did this fellow down in this place pay \$4.50?"
"Q. Yes, sir."
"A. But he did not."

"Q. But I assume that he did,—you start from that point."
"A. Well, what do you want?"

- "Q. Well, I want to know what the carrying charge would be on that instrument."
- "A. Carrying charge? Do you mean how much main-2040 tenance?"

"Q. Yes, how much maintenance?"

"A. On the transmitter, receiver and coil?"

"Q. Yes, sir.

"A. He wouldn't have any, unless he was struck by lightning and had his coil damaged; probably five cents a year would be absolutely the maximum for the maintenance of the transmitter."

"Q. Five cents a year?"

"A. Yes, sir."
"Q. What would five cents cover?"

"A. Everything."

- "Q. Cover everything for how long?" "A. Five cents a year indefinitely.
- "Q. Five cents a year indefinitely would cover all maintenance?"

"A. Yes, sir."

"Q. How much would you have for depreciation?"

"A. Oh, you probably would have—it ought to run forty years, those instruments, with a little readjustment, they do,-I can show you instruments in perfect health that have been running since 1898; just as good,—no reason why they shouldn't be just as good."

"Q. Just fix your own price on it."

"A. On the basis of \$4.50, I give him ten cents for depreciation." "Q. You would make that in two and a half per cent, would you? You would have 11/2% for maintenance and 2041 21/2 % for depreciation?"

"A. Oh, no; we are talking about what it actually costs."

"Q. (Interrupting.) Would you have any administration?"

"A. Oh, no; we would probably have one cent." "Q. Well, that would be about one-fourth of 1%?"

"A. Your administration of the independent plant never runs over \$2.50 per station, complete."

"Q. What would you count for return on investment?"

"A. Well, most of these fellows never get any return on their investment until the Bell buys them out."

"Q. What would you count for return on the investment?"
"A. They ought to have something."

"Q. What would you count?"

"A. Anything,-six, if you want to; they would be tickled to death with it."

"Q. The evidence in this case would be around ten per cent."
"A. Who said that?"

"Q. That is what the bankers say."
"A. Do the National bankers get ten per cent on their loans? They better report to the Secretary-Treasurer in Washington. they are getting ten per cent, they had better make an explanation to the Secretary of the Treasury.

"Q. But they claim in the National banks, they get security and they get only 7%. Is that a fair rate of return in the telephone business?" 2042

"A. You have a wonderful security; you have the guarantee of the Constitution."

"Q. Well, would you take the returns yourself?"

"A. Well, six per cent; they would be awful glad to get six."

"Q. You say six per cent would be fair?"
"A. Yes, sir."

"Q. Although the men who know claim ten?"

"A. Who?"

"Q. Houston bankers."

"A. Are bankers business men? All the banker does is take your money and loan it out to somebody else with a little security on it. It is the most cowardly business in the world."

"Q. He knows a little bit about what money is worth, don't he?"

"A. A banker knows less about business than anybody else; there is no réason why he should know anything about it; he grew up in a cage and he thinks every man is a liar and every man is a crook from the time he is an office boy."

"Q. Is that the way you think about it?"

"A. No, I grew up from an office boy; I am a borrower, you know.

"Q. Wouldn't you concede 8%?"
"A. He would love to get 8%."

"Q. It wouldn't be unusual; these banks here in Houston average about 121/2 % a year."

2043 "A. Our banks in Chicago earn about 5%."

"Q. Here they earn about 12%."

"A. I don't know how they get it."

"Q. You would have to pay something for taxes, wouldn't you?" "A. Oh, the taxes run annually about \$2.00 per station for everything."

"Q. I am taking this instrument, now."

"A. About two cents on the dollar. The taxes would run one and one-fourth per cent, about."

"Q. How about omissions and contingencies?"

"A. Oh, that's a joke. What would you miss in talking about a transmitter?—a receiver and induction coil?"

"Q. If you were valuing an entire plant, would you count anything for omissions and contingencies?"

"A. Why, I think it is the silliest confession that an engineer ever made to charge somebody \$100.00 or \$150.00 a day, and then say, but we have made a lot of mistakes, so we will have to put in a percentage to cover that. It is rotten confession. I am ashamed of it."

"Q. On this basis you have here, Mr. Lyndon used-

"A. Say, you told me Mr. Lyndon was a storage battery man; I don't vouch for his findings in the telephone business at all."

"Q. He made a report in 1914 and another report in 1918, and in one of them he had 28% and the other one 21%. Now .-

2044 "A. (Interrupting.) I don't believe in percentages in the first place. I am telling you as a man that handles and rebuilds these things what it costs in actual money to handle them."

"Q. How many telephone receivers have been in Houston more than three years?"

"A. Oh, there ought to be practically all of them here; and what in the world is the reason that a transmitter, receiver and coil should be changed in Houston. If there wasn't something radically wrong with it, it ought to stay in Houston fifteen years."

"Q. Would it be interesting to know that the turnover in

instruments-

"A. (Interrupting.) Yes, when you change and move, you go and take out an old one and put in a new one. It is still just as good; it has the nickleing off of the front, which you could have done for three cents."

"Q. But those instruments are turned in to the American Tele-

phone Company-"

"A. (Interrupting.) That is where your extravagance comes in; right here in Houston are plenty of shops that could renickle your transmitters at three cents a piece."

"Q. Well, don't they ever get out of adjustment?"

"A. Why would they get out of adjustment? You take a screw driver and repair anything about it."

"Q. These instruments are turned in to the American-

2045 Telephone Company every four years."

"A. If you turn them in every four years, you have got a mighty rotten instrument; I will tell you that.'

"Q Do you know how many different types of receivers are used?"

"A. Oh, yes, you finally had to come to our —; you bet, that is an improvement. You borrowed that from the Independent. using those receivers yet, you know."

"Q. In one breath you tell us to use them for forty years, and then-

"A. (Interrupting.) The Bell Company is using them; you are using them in the country, but magneto telephones don't need the protection that common battery telephones do. You can use them forty years, and then when the Western Electric Company gets them, then all they do is to nickle the front and put in a screw and it is just as good as new."

"Q. Did you know we had forty-eight different types of receivers

and sixty-eight different types of transmitters?"

"A. You don't; you've only had three different types in the last

twenty years."

"Well, the sworn testimony in this case is that there is forty-eight different types of receivers and sixty-eight different types of transmitters.

"A. Not in the public hands. I have been using telephones for

twenty years---'

"Q. (Interrupting.) Probably you didn't notice the difference."

2046 "A. Oh, yes; that is one thing I always do, -look at the inside of them. I venture to say that I know as much about a

transmitter as any other man in America."

"Q. Out of the forty-eight different types of receivers and sixtyeight different types of transmitters that have been used, you have recognized only three?"

"A. Oh, no; they have been used and, of course, you have made them; you have them in wireless; you have them in other things; we

make that many types ourselves."

"Q. Now, Mr. Kelsey, an instrument that could be made, which could be bought now for \$5.50, or taking Mr. Rhodes' figure of \$4.50, in order to be conservative, you think that that instrument, if a man could afford to rent that instrument out at fifty cents a year-"

"A. (Interrupting.) They tried to do it awful hard, Mr. Frank."

"Q. When?"

"A. Oh, for years and years. It was the most pitiless industrial warfare for years. When the Western Electric Company come into the field the Bell Company tried to jam this Bell receiver down the independents' throats and it would not go. Then, when they could not sell them they began to lease them.

"Q. How many years has that been?"

"A. Up to 1914. We were still fighting a little bit; then I retired, but the battle is still on."

"Q. Has any instrument been rented in the last few years

2047 for fifty cents?"

"A. I do not know that those contracts are still in force." "Q. You know of your own personal knowledge that anybody is

getting fifty cents?"

"A. Yes, sir; right in Chicago today. The City of Chicago is getting it. They leased all of their instruments at fifty cents; cheated us out of a good sale."

"Q. From whom?"
"A. The Western Electric Company." "Q. Who maintains their instruments?"
"A. They do."
"Q. Who maintains them?"

"A. Oh, I think the Bell Company likely maintains what is to be maintained about them. They are all there yet."

"Q. How are these instruments used?"

"A. Why, on the P. B. X service, policemen, firemen and alder-

"Q. Is there a service charged them besides that?"

"A. Oh, yes; they have that old measured service in Chicago; whenever they hit a line it is charged up."

"Q. They put the instruments in there at fifty cents a year, then

charge extra for the use of them?"

"A. Oh, yes, sure."

"Q. That would be really an extra charge?"

"A. What has that got to do with it? They do ninety per cent of the talking among themselves." 2048

"Q. When was the last time you saw the contract?" "A. About '17 or '18; I was over there at the City Hall."

"Q. You looked at the contract?"

"A. Yes, sir.'

"Q. Who signed the contract?"

"A. I think Mr. Sonney."

"Q. Mr. Sonney, on behalf of whom?"

"A. The Chicago people had to do that; the Company had to make the deal, if I remember right; you can get that, you can show that.'

"Q. Fifty cents per year or fifty cents per month?"

"A. Fifty cents per year for the instruments, on the basis I mentioned."

"Q. What else was in the contract?"

"A. That was all."

"Q. Just the instruments,—and that was a special contract entered into when?"

"A. About 1912. I lost the sale somewhere along in there."

"Q. For how long a term is that contract to run?

"A. I don't know."

"Q. Could a contract like that be modified now?"

"A. I don't know."

"Q. What would the Kellogg Switchboard Company make a contract like that now?"

2049 "A. A lease at fifty cents? I don't know. They would have at that time."

"Q. Would you make a contract like that at that time?"

"A. We always believed that people ought to own their own tele-

phones; it is cheaper."

"Q. Would you make a contract as a manufacturer to furnish the Southwestern Company the transmitters, receivers and induction coils, to keep them in good condition, at fifty cents a year?"

"A. Is that all they charge you?"
"Q. I am asking you would you do it?"

"A. I can't conceive of such a foolish question as that."

"Q. Isn't that the amount that you alleged in this case, -for fifty cents a year?"

"A. After you pay for broken shells, you pay for broken parts twice,—you pay the freight and you pay the express both ways."

"Q. As a manufacturer, would you undertake to furnish even your second-hand instruments at fifty cents per station?"

"A. Yes, sir."

"Q. Have you ever done it?"

"A. No, nobody is that foolish, besides yourself, to undertake to do business on that basis. It is a foolish condition, a subterfuge condition; every company ought to own their own instruments."

"Q. If they owned them they would have to have them 2050 maintained and repaired, and have to have replacements?"

"A. Yes, that would show in your sheets every day. think that is something you ought to do yourself. I think it is absolute folly for you to ship them. I think you ought to do it yourself."

"Q. Do you know whether the Western Electric Company have a

repair shop here?"

'A. They should have one. They ship much of that stuff right straight back from the main office.'

"Q. Have you examined here to see whether they do it?"

"A. Not here, but I have visited a great many Western Electric Company offices, Mr. Frank."

"Q. I believe you stated that you told Mr. Howard, with respect

to this division plant, the toll plant-

"A. (Interrupting.) Yes."

"Q. (Continuing:) That you would have to stand or fall on the twenty per cent?"
"A. Yes, that is the only way to arrive at that."

"Q. In other words, that is the only hope of his making any showing in this case at all?"

'A. Why, that is ridiculous; I did not make any such assertion

at all."

"Q. You put in just as little as possible in the plant?"

"A. A man pays twenty-five cents to go out here on the railroad, and I said the only basis of charging these tolls would be to 2051 charge for the use of them by the respective subscribers, but we couldn't find out-

"Q. (Interrupting.) What was it you said when I asked you. with respect to the percentage you used, and you said you didn't

know whether it would be ten per cent or twenty per cent?"

"A. At that time I did not know. At that time, really, I thought it was none of your business, anyway,—what I was going to do with this proposition anyway, in the first place."

"Q. But you stated that you told Judge Howard that you would have to stand or fall on whether or not it was twenty per cent?"

"A. I said that is the only basis,—is the use of the line."

"Q. What did you mean by saying that you would have to stand

or fall on whether or not it was twenty per cent?"

"A. Well, I say if people in Houston use these toll lines in proportion, the City would have to stand it,—that all. That is perfectly obvious. If it was twenty, then they could charge you with twenty per cent of the total of the toll investment."

"Q. But when you were on Cross Examination before, on Page 2078, you testified,—I asked you the question: "How would you proportion the toll property in the States?"-and you testified as

follows: "Well, I am going to have composits-I have got to 2052 study your pro rata of the expense you have got loaded in

Houston. You have got Houston loaded with practically \$120,000,00 of expenses here that I don't know what it is. Q. Are you going to divide it on the basis of expense? A. Not yet. going to wait and see. Not until I see the books. Q. Are you going to wait and see what result you are going to get before you decide? A. No, I haven't yet. I never fool myself that way. Q. Name some of the ways in which you might divide the toll property of the State? A. You show me the books. You don't know how, I don't know how I am going to take care of the proportion until I make a study of the situation. Q. Now, let's see, Mr. Kelsey, you could divide the toll property of the State on the basis of the proportionate part of the entire property as found by loading the Houston exchange property with all the property in the State, couldn't you? A. Oh, I presume so. Q. Now, you could divide it on the basis of the proportion of the entire expenses in the State as compared with the entire expenses in the City of Houston, couldn't you? it could be, I suppose. Q. Now there are four different ways of dividing and allocating the toll property in this State to the City of Houston. Which one of those do you intend to follow? A. I don't know."

Then, after a colloquy between the attorneys, you say: "Show me the books. Q. Does your answer depend-does your system depend upon what the answer would be? A. I want to know 2053 on what basis you do all your allocating. Then I am going to-I don't propose at this time to say what I am going to do about that allocation. Q. Can you tell the Court at this time what would be a fair way of——. A. (Interrupting.) No. Q. Now, Mr. Kelsey, have you ever done this anywhere else? A. I presume so,-

I don't remember."

So that, Mr. Kelsey, it was just an accident, wasn't it, that you stumbled on the lowest percentage that it was possible to use for the allocation of the toll properties to the local exchange?"

"A. Did you ever make a speech and think of the many things

you might have said, after you sat down?"
"Q. I am not testifying."

"A. You know, I thought of a lot of things after I got away, out of Houston, that I might have added to this case, but we were going at high speed and I told you that I would come to a final logical reason, and I finally did. If a man buys service from the railroad, he can use it so far, and no further."

"Q. Answer my question, whether it was an accident that you

stumbled on the lowest percentage?"

"A. No, sir."

"Q. It wasn't an accident? I didn't think it would be."

"A. Well, I don't believe in accidents in this business my-2054 I don't take anything for granted, Mr. Frank."

"Q. Did you figure out the percentage any other way?" "A. No, that's the only way. I never even made another calcu-On the train, I said to Charlie Gates, or the man with him, I said: "I want to know what your toll business is"-and then I wasn't surprised to find that Houston wasn't getting its full share; and I told Judge Howard at the time that the large city doesn't seem to originate the tolls,-that the small cities do. I found that out in Montreal,—that the small cities were originating all of the toll business, and I said when I got here: "I am very much surprised if Houston isn't doing what the other large cities do." Now Birmingham had a small amount compared with the rest of the community.'

"Q. You say you didn't figure out the rest of the percentages,-

the other percentages?"

"A. I don't think I did."

"Q. What is the meaning of the "deadly parallel" on the third page?

A. That is to show that the charge here is just in proportion to the portion-

"Q. (Interrupting.) You stated that you didn't figure the other percentages."

"A. Well, not in this relation."

"Q. And on the third page of your exhibit you show that 2055 16½% of the company's telephones are operating here in Houston.'

That is for the information of the Court, and by a strange

coincidence, 161/2% of the traffic is here."

"Q. You found out that 161/2% of the traffic is here in Houston?"

"A. Charged right here to the dollar."

"Q. And that 161/2% of the telephones are in Houston?"

"A. Yes, sir."

"Q. Then you found out 19 per cent-"

"A. (Interrupting.) You have got this town loaded with maintenance and depreciation a little bit more than there ought to be."

"Q. Then you found out 23% of something; what is that, of the investment; the company's engineers have almost unanimously agreed you say that the Houston property shows an investment of practically \$8,000,000.00?"

"A. I saw one item here that come pretty close to eight million. That was my impression until I saw your figures yesterday,-six

and a half million."

"Q. Then you say: "Surely a calculation which reveals 23% of the property of this Company in Houston proves its own absurdity, when it is noticed that but 161/2% of its subscribers are in the City.

"A. Well, you consider that Dallas is a big property, and Fort Worth and San Antonio; you couldn't conceive of any proposition

whereby Houston would have 23%." "Q. So that was figured out?" 2056

"A. It has no relation whatever with the special condition. I was trying to solve that toll proposition, which was bothering me a great deal, and I found it quite logical and practical, too."

"Q. Now, the total plant in the City of Houston is about 20% of the total exchange plants of the Southwestern Company in Texas. Why wouldn't that be a fair basis of dividing the toll properties?"

"A. It is not, at all. It is impossible to conceive of conditions like that, when you consider Fort Worth, Dallas, San Antonio, Galveston,

Cleburne, and you can't, by any imagination, conceive of 20%. If you have, there's something rotten again,—something wrong. You couldn't have 20% of your investment in this town, unless you have got an old farm plant in Dallas and an old farm plant in Fort Worth. Why, it's ridiculous. There's other parts of this country."

"Q. How many stations are there besides the Southwestern?"

"A. One hundred and fifty-one thousand, I think."

"Q. One hundred and fifty-one thousand?"

"A. Yes, sir.'

"Q. And how many stations in Houston?"

"A. Twenty-six thousand and five hundred. That is 161/2%, I believe."

"Q. Now, about 161/2% of the property, you are going to 2057 allocate 10% of the toll property, are you, or 9.4%?

"A. Yes, because they only use that much."

"Q. Now, do all of those \$4,667,000.00 of toll receipts originate at the one hundred and fifty-thousand stations?"

"A. Yes, that belongs to the Company; that is the money that is left."

"Q. Do you say that it does originate at those stations?"

"A. That is the money that is left; that is the toll business that belongs to them."

"Q. Now, there happens to be on the very report that you got that figure of the number of stations from, that happens to show, if you

had just looked at it, their connecting stations in Texas-"A. (Interrupting.) That has nothing to do with that; that is the money that the Southwestern earned and turned in,-their own financial statement."

"Q. That is the money that they earned and turned in, their own

financial statement."

"A. It has nothing to do with it." "Q. Those are connecting stations?"

"A. Yes, sir; that has nothing whatever to do with this case." "Q. So that the \$4.667,000.00 originated at one hundred and

fifty thousand stations?"
"A. Not necessarily. The net result of your toll business in one year in this wonderful company resulted in \$440,000.00, last

year in this town."

"Q. Do you happen to know that in the City of Dallas there are thirty-seven thousand stations?"

"A. That has nothing to do with this case at all."

"Q. And they are not counted in this one hundred and fifty thousand?"

"A. That has nothing to do with it. Who owns Dallas?"

"Q. Let's see where we are going to get on our allocation. are going to allocate ten per cent of the total toll property in Texas to Houston. Where are you going to allocate the other ninety per cent?"

"A. To the other various towns that originated it. That has nothing to do with the State of Texas, Dallas or Fort Worth; it has

nothing to do with anything."

"Q. Then a little town like Bryan might have an allocation of

25%,—mightn't it?"
"A. It might have; that is a wonderful earning, too. You are proud to have that little station down in there. That is where your money comes from, Mr. Frank."

"Q. Did you know that the total figure that you used contained over \$100,000.00 that wasn't telephone rentals at all, but was for

leased wires for telegraph service to the Associated Press?"

"A. That won't make much difference. It is very small. dealt with those telegraph tolls and all of that is in there. You know that is a part of this system. You know that is in there. You know Houston has a leased telephone business

and they have these wires in here."

"Q. Suppose you were told that in the one hundred and fifty-one thousand stations in Texas, that only about two-thirds of the \$4,667,000.00 of toll business was originated?"

"A. I don't care whether it is originated or not. You collected

that much money. What has that got to do with it?"
"Q. All right. Now, that is two-thirds of it. Now, in allocating

"A. (Interrupting.) Allocating nothing. I am talking about all

the tolls that you earn."

"Q. In allocating your long distance lines to the various local exchanges, if you would allocate it on the basis of use, as you have done, you would leave about 33 1/3% of your plant up in the air; where would it be allocated?"

"A. What 33 1/3%?"

"Q. There is only about two-thirds of this amount of the total revenues from toll business that is originated at the one hundred and fifty-one thousand stations."

"A. And paid for." "Q. And paid for."

"A. How do you know that?"

"Q. Because we have the figures."

"A. Your balance sheet shows so much earning for the year." 2060

"Q. Our balance sheet shows a little over two-thirds of the

tolls originating-"

"A. (Interrupting.) Originating? What are you talking about? What has that got to do with it? You might originate any amount and send it to New York. The money you have kept out of your toll business amounts to \$4,667,000.00."

"Q. Let's assume-

"A. (Interrupting.) Don't assume anything. Your toll earnings are just-don't matter whether you originate it or terminate it,—you have collected the money and kept it, and you have paid all commissions, too."

"Q. Now, these \$441,000.00 worth of tolls originating in the City of Houston is the thing; that is the percentage on which you

have allocated the toll property?"

"A. (Interrupting.) That is the information I had. Do you

come into this town and admit that you had \$441,000.00, but that you were trying to gum-shoe them out of three-fourths of it? folks always keep the books and hide them out and never will let anybody see them, and then you come in here with some of your wheres and wherefores. You earned \$441,000.00 on toll business in Houston, and that is the basis you are going to settle on,-the money you earned on your long distance business."

"Q. Oh, I am just trying to find out why you left out the rest of it. Suppose there was one hundred and fifty-one thousand

stations-2061

"A. (Interrupting.) Nothing to do with stations."

"Q. Well, I notice you abandon stations?"

"A. Well, you abandoned it too. Never was considered in this I had those conditions in Dallas in mind,-all those proposition.

conditions."

"Q. Mr. Kelsey, if there were five other towns in the State of Texas and only five other towns where we were doing business, and each one of them had a plant the same size of Houston, or approximately 26,666 stations, that would total one hundred and sixty thousand stations. Now, I want to show you the fallacy of your reasoning, by showing you-"

"A. (Interrupting.) I am not talking about stations, Mr. Frank."

Mr. Howard: You might demonstrate the foolishness of your own, Mr. Frank.

Mr. D. A. Frank: I will come back to that in a minute.

"Q. Out of the total earnings of \$4,667,523.00 for tolls, the total originating tolls on stations belonging to The Southwestern Telegraph and Telephone Company was \$3,277,969.00, these figures being given to me by Mr. Scott, leaving \$1,389,554.00 of these tolls that were originated on connecting line companies."

"A. (Interrupting.) And on which you earned mileage and terminal fees, and everything else; you earned so much during the

2062 year."

"Q. Now, you have compared the \$441,000.00 originat-

ing in Houston-

'A. (Interrupting.) Not necessarily originating in Houston; the amount that Houston is alleged to have earned during the year."

"Q. It isn't alleged to have earned that."

"A. Yes, sir, it is. It is the amount of toll business in the City of Houston."

"Q. It is the amount of toll business collected for in Houston." "A. Well, it doesn't matter. We are talking about the toll business that you do in your territory. You did it, or 9.4% of it here."

"Q. Let's put it on the per station basis."

"A. It has nothing to do with the per station basis. Toll business has nothing to do with the stations. Toll business is toll business; lines running around this town——"

"Q. (Interrupting.) \$3,277,000.00 of tolls originating at one

hundred and fifty thousand stations."

"A. That has got nothing to do with the case. Originating—what has that got to do with the case?"

"Q. That would be about \$2,000.00 a station, wouldn't it?"

"A. You claim to be a good mathmatician,—you use your pencil."

"Q. That would be about \$20.00 a station, wouldn't it?"

"A. Presumably, if you say so."

2063 "Q. So that the amount which Houston ought to originate, according to that basis, ought to be something like \$520,000.00?"

"A. Yes, sir."

"Q. Now, if you allocated your total plant-"

"A. (Interrupting.) What has the total plant got to do with toll business?"

"Q. Now, if you allocate to each town upon the basis that origi-

nates at that town——"

"A. Oh, no, this is the money that you alleged that Houston earned in tolls, and you gave them a fourth of it."

"Q. Now, if you do the same thing with every town in the

State-"

"A. (Interrupting.) It is a pity that you haven't a statewide case; we would have them all here simultaneously."

"Q. Now, answer the question,—where would you be if you did

allocate them to each town?"

"A. I haven't allocated them and don't intend to. We allocate the earnings of Houston as paid to the company as a whole; that is 9.4%. I am putting these figures in here,—they are not yours."

"Q. Mr. Kelsey, if you allocate to every town in the State just like you have in Houston, the result would be that you would have 32/46ths of your plant allocated and you would have 4/46ths of your plant unallocated, wouldn't you?"

"A. Because you did so much of the toll business in the

2064 rest of the country and so much here."

"Q. Well, how have you allocated it to the rest of the towns?"

"A. Each town in proportion to its toll earnings."

"Q. Would that make 100% of the toll earnings?"

"A. Absolutely,—100%."

"Q. How would it?"

"A. Because that is all you take in. That is all that Houston is credited with,—that \$441,000.00."

"Q. But there was \$1,389,554.00 derived from the other stations."

"A. I know, but that was earned by the toll lines and valid receipts, and that has got nothing to do with this case; that is a part of the earnings, legitimate earnings of the toll lines."

"Q. Don't you see that on the basis of your allocation you would

never give 100% to the plant?"

"A. Why, absolutely not. Here's all the money that you earned, \$4,667,000.00; that's your earnings for the year, a wonderful earning. Houston was only given, according to your statement, \$441,

000.00. I think that is low and I have agreed to it because most of

the large towns added a small percentage."

"Q. But on the same basis of \$441,000.00, you have been told several times that the originating toll revenue for the State at the Southwestern stations amounts to \$3,377,969.00."

"A. I don't care anything about that. Don't you handle anything that comes in? Don't you terminate any business

on your toll lines?"

"Q. Just tell me how you get 100%."

"A. Absolutely because your 100% represents your toll earnings,—\$4,667,523.00. That is the report that you made, that your toll lines received a certain amount. Then you used your toll lines for — and everything else."

"Q. Will you take a piece of paper, please, sir?"

"A. I am too tired to do your figuring."

Mr. Howard: You can make the computations if you want them. He is not a clerk.

"Q. Take a piece of paper and show me how you get 100%."
"A. Well, name the towns, all the names of the towns."

"Q. Instead of giving all the names—"

"A. (Interrupting.) No, no, the thing for you to do in this case you've made a lot of bluffs to me in this case. I am going to call some of those. We'll show you all about that 100%. That is what you are dodging. We will make you eat that quick. That is just the point I am insisting on,—100%, and you are trying to cut this down 20%."

"Q. You just take the figures-"

"A. I won't take the figures until you give me a list of all the towns."

"Q. Well, it would be a map of the State of Texas."

"A. Well, bring it in, bring in all the towns."
"Q. But you are under cross examination."

"A. I know it. How can I create 100% if Houston-"

"Q. (Interrupting.) Now, \$3,277,969.00 originated at one hundred and fifty-one thousand stations?"

"A. Yes, but how much is terminated?"
"Q. Didn't you say that it was 43%?"

"A. No, no, sir."

2066

"Q. If there is six or eight towns, or twenty towns, or any other number of towns in the State—"

"A. There's more than that."

"Q. In the State?"
"A. Fifty towns."

"Q. And all of them were in here at one time."

"A. Yes, sir."

- "Q. And the total amount that was originated in all these towns-"
 - "A. (Interrupting.) But why that—why allocate the other?"
 "Q. \$4.667,969.00——"
 - "A. (Interrupting.) But other companies have local earnings."

"Q. Let me finish my question. Now, if all of the other tolls just like they are in Houston, amount to \$3,277,969.00, and you attempted to divide the plant into proportions as between the \$3,277,-969.00 as compared with the total toll earnings for the State, part of which was taken in at these other two hundred and

twenty-five thousand stations in the total amount of \$4,667,-2067523.00, can you see that you would have about 331% of

your toll plant allocated?'

"A. Yes, and I can see that you are cheating Houston out of about \$277,000.00. You put into this town what belongs to it by the way of terminating-you are cheating Houston; you are assuming that Houston gets nothing for terminating a call."

'Q. Your idea is that they ought to put in more than actually

received?'

"A. Yes; you state in this case and come in here and find that the City of Houston is very nearly ruined with but \$441,000.00 a year. I go on up to the General Office and find that the Company, as a whole, earns \$4,600,000.00; I find if Houston has got its full credit for everything it is entitled to, it originates about 9.4% of the toll business; but if it comes out and is true that the City of Houston is being denied its share of this million and a half of terminal earnings and other things, which belongs somwehere, belongs to the Company, why, then I am perfectly willing to rest on Why not?" my theory.

"Q. All right, Mr. Kelsey."
"A. That would give \$600,000.00 to this town, and we would be

perfectly willing to take our increase through investment."

"Q. All, right; let's go a step further. Suppose that the Southwestern Telephone Company should sell every local exchange in every town in Texas except the City of Houston, it would 2068 still have the same toll line property, amounting to \$8,602,-359.00, it would still have the toll earnings of \$4,667,000.00. I ask you to state to the Court whether you would allocate them the entire \$4,667,523.00 to the City of Houston?"

"A. It is an absurd condition that is not practical."

"Q. Well, it is possible, isn't it?"

"A. No, in that condition, then Houston would be loaded up with all these General Office charges,—these operators over here, these operating expenses."

"Q. Your theory of putting a part of the toll plant into the local

exchange-

"A. (Interrupting.) I don't know what you are talking about.

You don't know either."

"Q. Well, I don't know whether you do or not. I know what you are talking about. I just asked you to answer that question,whether you would favor putting the entire toll plant in the City of Houston—the entire toll earnings in the City of Houston?"

"A. It is an absurd situation, without parallel and without hope of parallel. It is a condition that is not possible. As long as we have this present condition existing in this town whereby Houston

is loaded up with all the charges that could possibly be put on it, and it originates and handles and only receives a credit 2069 for-I can't see a reason now, while Houston is held to its proportion. It is being cheated out of what is going out."

"Q. If that was the condition, if the-

Mr. Howard: He didn't state that.

"A. If you put a proposition up to me, that you segregate absolutely the toll lines of the company and build little switchboards outside of the community and connect with the trunks, then you have got a sensible condition; but you can't come in here and take the biggest part of your traffic expense, toll operators in the City of Houston, and load them in here on the City of Houston and try to erect any edifice as you did awhile ago."

"Q. (Interrupting.) Will you stick to my question, Mr. Kelsey?

If I understand you, then if this company was-

"A. (Interrupting.) If it was all a long distance company?"

"Q. Except the City of Houston."

"A. No, that would be absolutely absurd. Take your A. T. & T., which has no terminals, then you have got a fair condition, but here you camo-flouge all the expense of running the long distance in on the Houston people."

"Q. Take the A. T. & T.?"

"A. That is a separate concern. You never would have had all this argument in Court if you had had a separate toll 2070 company."

"Q. About eight years ago the A. T. & T. had one local exchange." "A. Down in North Carolina? Yes, they tried to get rid of it quick."

"Q. I don't think it was in North Carolina, but it was in Ala-

bama."

"A. Yes, sir."

"Q. Now, they had one exchange; you wouldn't undertake to load the whole long distance plant of the A. T. & T. Company on that one little plant down in Alabama, would you?"

"A. Oh, that is a perfectly absurd question. It has nothing to

do with this case whatever."

"Q. Just where would it cease to be absurd?"

"A. We are talking about this condition that exists here."

"Q. Where would it cease to be absurd?"

"A. We are talking about a State telephone system here, of which we are all a part."

"Q. There's two hundred and sixty-two telephone companies in

the State of Texas?"

"A. Yes, I imagine that there's more than that."
"Q. That's doing business with the Southwestern Telegraph and Telephone Company."

"A. Yes, sir.

"Q. Now, there are some of them that are purely local exchanges"A. (Interrupting.) That has nothing whatever to do with it.

"Q. Let me finish my question. Now, there's some of 2071 them that are purely local exchanges, some are purely long distance, and some of them are both long distance and local exchanges. Now, there are some of those lines that you might be called on as as expert to value."

"A. Not me."

"Q. (Continuing:) And I want to know if you went to value the local exchange or one of these long distance systems in this State that happen to own only one local exchange telephone plant——
"A. (Interrupting.) What is the name of the company?

"Q. (Continuing:) I want to know whether or not you would allocate-

"A. (Interrupting.) Name the company."

"Q. (Continuing:) I want to know whether or not you would allocate the entire plant of a long distance company to the local exchange?"

"A. You name that condition, and after I look it over I will tell

you exactly what I will do.'

"Q. You don't have to have the name of the local company, do

"A. Oh, yes; there's a thousand local conditions in this country. You can't erect any of this hypothetical bunk that you are erecting here and get away with it. We are talking about an actual physical

condition. You show me a physical condition such as you 2072 suggest and I will go over there and look at it and look it over, and I will come back and tell this Court."

"Q. Can't you answer the question?"

"A. What is the question?"

"Q. I say, you don't have to have the name of the local company. I want to know if you went to value the local exchange of one of these long distance systems in this State that happen to own only one local exchange of the plant, whether or not you would allocate the entire plant of the long distance part of it to the local exchange?

"A. That is an absurdity."

"Q. It is not; in fact, there's quite a number of them in Texas."

"A. Name them."

"Q. It is not necessary to do that."

"A. Yes it is, because I have got to see it before I can answer it." "Q. Can't you conceive of such a case as that?"

"A. No, sir."

"Q. Did you ever know of a concern that operated only in a city?"

"A. Yes, sir."

"Q. Does the Chicago Telephone Company operate only in a

"A. No, not in Chicago; you know, it reaches down to Joliet and

'Q. Does the Cleveland Telephone Company operate in Cleveland only?"

"A. That operates all along."

"Q. Did the Commission allocate all of the long distance 2073 lines to Cleveland?"

"A. They have a contract."

"Q. Most of them have a contract?"

"A. Where you have a separate contract and a separate long distance company, that is different. You have here an intermediate

concern: you have to use a separator, you know."

"Q. The City of Dallas telephone plant is owned by the Dallas Telephone Company, a merger of the Bell telephone plant and the local telephone plant; a large part of the stock is owned by the Bell people, but still there is something like twenty or thirty or forty per cent of it that is owned by the local people and they have no long distance lines at all. In valuing the City of Dallas would you add a part of the long distance earnings to the local exchange?"

"A. If it is a separate concern, you have an entirely different con-Here is a condition in this town that is so intermingled that you can't allocate it. There's more toll operators than there are

local operators."

"Q. Do you swear that?"

"A. Yes, sir."

"Q. That there's more toll operators than there's local operators?"
"A. That can be proved."
"Q. But you are swearing now. You testify under oath?"

"A. Yes; I am glad you mentioned that, because I overlooked it." "Q. You are testifying under oath that there are more toll 2074

operators and more expense than local?"

"A. You have got a tremendous traffic load in this town."
"Q. What difference does that make with reference to this theory of yours?"

"A. Not a bit."

"Q. In the City of Dallas you wouldn't undertake to do that?"
"A. That is a different condition entirely. Here is a condition right here that is so plain,—it is as plain as your hand."

"Q. The City of Dallas, as I understand it, is connected with four

or five long distance lines going in there."

"A. I imagine that they have got the old Texas long distance tele-

phone lines.'

"Q. Well, they have got several going into the exchange there. Now, if you were valuing the City of Dallas telephone plant you would not undertake to allocate a part of the toll-

"A. (Interrupting.) After I looked over it——"
"Q. (Interrupting.) But you wouldn't undertake to allocate any of the long distance lines, or any of those four or five companies that operate in there, would you?"

"A. Yes, and I am going to see that the local community gets its

share. That has been the great game, -hiding these things."

"Q. Have you a conception of what we are trying to arrive at in this case, Mr. Kelsey?"

"A. I am trying to arrive at what the City of Houston 2075 ought to pay you for those services."

"Q. Do you know that what His Honor is trying to arrive at is

the value of this property in the City of Houston?"

"A. Yes, and I have given you that in my opinion." "Q. Why do you go out of Houston and drag in-

"A. (Interrupting.) Because the confiscation depends on your

earnings."

"Q. In other words, your idea is that if the long distance lines were losing money on the outside, but the City of Houston would have to raise its rate in order to carry the long distance lines?"

"A. Just about the size of it."

"Q. On the other hand, your idea is that if the long distance lines were making money, that the rates in the City of Houston

ought to be cut down?"

A. Why, the City of Houston is paying for all the toll girls and everything else. The thing for you to do is to separate the long distance from the local; build your switchboard full outside of town and you won't have this argument and confusion; but you are getting away with something."

"Q. Mr. Kelsey, do you remember what per cent you claimed was used for overhead expenses on central office equipment by Mr. Hoag?"

"A. What do you mean by that, Mr. Frank?"

"Q. When Mr. Howard was questioning you he asked you 2076 to state how much, in your opinion, it would take to install the switchboards at Preston and Hadley and Taylor, and you made certain figures for him; and then he asked you how much overhead there was on there. You remember what per cent you used?"

"A. No, I don't but I can tell you in a minute; about 50% I

think it was, Mr. Frank."

"Q. Just tell us how you arrive at the 50%?"
"A. Well, add land, buildings, distributing system, central office equipment and station equipment-

"Q. (Interrupting.) Well, he was merely talking about central

office equipment."

"A. Yes, I will tell you. By adding these items it amounts to \$4,655,000.00, and by taking the loadings the total amounts to something like \$6,915,000.00; in other words, the loadings are 50%, the indirects."

"Q. Just tell us what loadings."

"A. Contingencies and omissions-"Q. (Interrupting.) How much contingencies and omissions?"

"A. Three per cent; engineering, 4%; general expenses, 2%; taxes during construction, interest during construction,-

"Q. (Interrupting.) How much?" "A. Why, that runs \$550,000.00."

"Q. Interest during construction?"

"A. Yes, sir.

"Q. That would be about 9%?" 2077

- "A. Yes, and the cost of establishing business,-practically a million dollars.'
 - 'Q. Is cost of establishing business an overhead?"

"A. You have got it in as an overhead."

"Q. Do you call that an overhead?"

"A. Yes, sir."
"Q. That's the way you arrive at 50%—by putting in the cost of establishing business?"

"A. Yes, by adding 50% to the direct charges."

"Q. So when you said the central office equipment was loaded up with 50% overheads, you meant by putting on there what we call overheads, and in addition to that putting on something for the cost of establishing business?"

"A. Yes, your switchboard in question amounted to \$750,000.00, and I said in your loading scheme you had made it about \$1,100,-

000.00 for the switchboard."

"Q. Now, as a matter of fact, the cost of establishing business is not a part of the physical plant at all?"

"A. It isn't a part of the plant at all in this case."

"Q. Well, in any case?"
"A. Where you have that expense in starting a business, it is a direct intangible, of course,—that is, the cost of establishing business—putting on the business, running the business, but there is no

reason for it in this case, as there is no reason to ever expect that there will ever be any period in your life where you will lose money in that way." 2078

"Q. Do you understand, Mr. Kelsey, that these entire figures are reproduction figures?"

'A. Yes, sir.

"Q. And you understand that the figures used for the cost of establishing business were not actually lost to the Company?"

"A. No, based on all these reproduction figures."

"Q. Do you understand how they were arrived at?"
"A. We used to arrive at it by adding 15%. Over in Houston, over in Montreal-

"Q. (Interrupting.) And some of them add 25%?"
"A. Yes, sir, and I wonder why you didn't add more."
"Q. Twenty per cent is rather the average?"

"A. Oh, all percentages used in any basis of analysis-

"Q. (Interrupting.) Twenty per cent for cost of establishing business?"

"A. In 1912 they thought that 15% was all right. Since that time some of them have claimed 20%; some of them have claimed 35%; there is no limit to their claim.

"Q. The cost of establishing business was not put on there before

depreciation, or subtracted, was it?"

"A. You have two values. What do you mean?"

"Q. What are the two values?"

"A. You have one without depreciation,—\$6,915,309.00."
"Q. Now, tell us what that is called in Mr. Hoag's ap-2079 praisal."
"A. This is reproduction cost new."

"Q. And how much did he take off for depreciation?"
"A. Well, apparently he takes off—he calls this plant 92.91 good; in other words, he removes 7.9%."

"Q. And what does that amount to in dollars and cents?" "A. It isn't figured that way; he has two sets of figures here." "Q. Well, what do the figures show the depreciated condition of

the property to be?"
"A. Well, let's see,—the depreciation is \$402,968.00."

"Q. Well, now, what is that figure,-read it over again."

"A. According to my calculation, 7.9% of your total reproduction cost of physical property, \$5,683,610.00 is \$402,968.00.

"Q. And what does that leave for the present condition of the

property?"

A. \$5,280,642.00."

"Q. Now, down to that point there hasn't been anything said

about the cost of establishing business, has there?"

"A. Oh, yes, you have two costs of establishing business and this applies to both of them. Two applications of it,-the same figure in each case."

"Q. But is 92 and some per cent applied to the cost of establishing

business?"

"A. No, no, it is not."

"Q. As a matter of fact, engineers don't generally think 2080 of the cost of establishing business as an overhead expense, do they?"

"A. Oh, if he doesn't he will get left and ruin himself."

"Q. Well, did you ever know of any engineer that claimed that as

an overhead expense?"

"A. I know, too, that every banker, or every large business man will start in and create a surplus to overcome that very thing,losses during the early period.'

"Q. We are not talking about the same thing."
"A. Oh, yes we are; it is an indirect expense that disappears; it's losses."

"Q. Well, does going value ever disappear?"

"A. It never appears. I can imagine indirect losses, such as lost tools, broken tools during construction, missing parts-

"Q. (Interrupting.) Does interest during construction disappear?"

"A. It's in there."

"Q. Does that disappear?"

"A. No, that's part of the investment that a stockholder buying a share pays for that."

"Q. What did you mean when you said that that is an expense that disappears?"

"A. What expense disappears?"

"Q. Overhead expenses."

"A. It can't disappear, because it doesn't appear. You have no cost of establishing business in Houston."

"Q. I am asking you about overhead expenses in general. 2081 Is overhead expense a legitimate expense to charge up in-

"A. (Interrupting.) Certainly, there is no protest on that.

"Q. Is the cost of establishing business usually called an overhead expense?"

"A. Why, it is nothing but overhead in those cases where you have

the cost of establishing business; it is a loss.'

"Q. Tell us what overhead expenses are." "A. Losses that you can't account for. It's waste, tool makers, for instance, in a factory, the men you have to rebuild tools, broken tools, waste of gas, waste of fuel, and all other little items that go in

and disappear. "Q. Anything that you lose and that disappears is overhead ex-

pense?"

"A. Yes, you take the unproductive load in a factory, and when

an unproductive factory goes out of business-

"Q. (Interrupting.) Could a person go into your factory, for instance, and take an inventory of the factory and arrive at the true value of the factory?"

"A. I can't conceive of such a case. We are not selling our property."

"Q. The Supreme Court of the United States in the Loncoln gas case said that the complainant had not such a monopoly, nor were its profits virtually guaranteed in such a sense to restrict it to a return of 6% upon invested capital. Now, the Supreme Court thinks that we haven't got a guarantee. You think we have?"

"A. I think you have."

"Q. Well, is there any guarantee here?"

"A. Well, you are asking for something, and at least have got a recourse that I couldn't get in behalf of my business,-you have got a privilege that I haven't got.'

"Q. What privilege have we got?"

"A. You are coming in here and claiming a higher rate,—you are

claiming confiscation.

"Q. Don't you see that what you can do in your business is to raise your rate immediately, and you don't have to go into court, and instead of this being a privilege, it is a burden on us to go to court."

"A. There is no relation there at all,—you have a cinch. mire your courage, whether you come in and ask for rates or not."

"Q. Well, what do we get after we get our rates?"

"A. Get a return on your money." "Q. Somebody will pay the return?" "A. The public generally does."

"Q. We have the privilege of charging them so much?"

"A. Yes, sir."

"Q. Now, the Supreme Court also thinks that we have the right to have going value considered, but you think we haven't?"

"A. You certainly have got a right to it if they cost you money,

but you never lose through that reason."

"Q. How do you know we haven't?"

"A. Oh; the Southwestern has been successful from the start, and the Houston plant has been a success. You may have lost a little money during early life——"

"Q. Interrupting.) Do you know what the history of the South-

western Company is?"

"A. I know the history of a great many of the principal Bell telephone companies."

"Q. Do you know what the financial history of this Company has

been?"

"A. It has been a very wonderful success."

"Q. Do you know what per cent it has made during the entire history of the plant?"

"A. According to your figures, you have probably lost money."
"Q. Do you know that the dividends paid for the entire history of

the plant averages 5.36%?"

"A. Well, that may be true. How much real money have you put into the Southwestern plant? That ought to be in that case"

"Q. Is that a wonderful investment?"

"A. I think, considering the indirect charges that have been made,

that the plant has always made money."

"Q. Well, the sworn testimony in the case is that there has been about \$37,016,863.91 in real money put into the Company, and the sworn testimony is that on the stock outstanding there has been 5.36% paid over a period beginning in 1883 and ending in 1919, which is 36 years. Now, do you consider that a wonderful investment?"

"A. To the owners it has been a very wonderful property. Mr. Glidden, and every owner that ever had it, made money on it. I

don't care what your dividends were."

"Q. 5% is wonderful?"

"A. That isn't all the earnings you had in this property. You have drawn money out of this property, other charges and fees and contracts."

"Q. All right, tell us what money we have drawn out?"

"A. I don't know; you could show that."

"Q. Well, when and how much?"

"A. I don't know."

"Q. You don't know? Why was it?"

"A. Because I know it?"

"Q. You realize that you are under oath, don't you, Mr. Kelsey?"
"A. You bet; I have realized that from the time I hit this town."

"Q. You swore this morning positively that we had more tool operators than exchange operators?"

"A. No, I gave it as my opinion that it cost you more to operate

your toll lines than your local exchange."

"Q. But you stated positively this morning that we 2085 had more toll operators than we had exchange oper-

ators."

"A. I know that when people get to speeding up they sometimes do say something that they have to back-pedal on, and we were going at a very furious pace this morning; but I am still satisfied that the toll expense in this town is almost as high as the other, and I would like to know what they are; I haven't seen them subdivided.'

"Q. Mr. Kelsey, the total number of toll operators in the City of Houston is 92 and the exchange operators number 415, making a

total of 507."

"A. What is your pay roll for each one? I am talking about

all costs, direct and indirect."

"Q. Can you conceive of 92 getting more money than 415?" "A. No, but I am talking about switching operators. The whole foundation is laid for your long distance business; the whole theory of your organization,—they all start messages out of this town."

"Q. Are you ready to take back what you said this morning about our paying more toll——"

"A. (Interrupting.) If you prove to me that I was wrong, I would, yes, sir.

"Q. Anything I can prove is wrong, you will take back?"

"A. Yes; you pulled the Birmingham record and took it back, and

I want the same privilege."

"Q. Mr. Kelsey, what are some of the things that enter 2086 into the makeup of a switchboard? Do switchboard jacks enter into it?"

"A. Yes, sir."

"Q. What are 92 switch board jacks worth now?"
"A. Twenty-five cents; they used to be fifteen."

"Q. Where they come 20 per strip?"

"A. Yes, or ten per strip. The largest one used to be 35."

"Q. And No. 12 jacks-twenty per strip-what are those worth?" "A. I don't know, but they-I don't know what they charge for them now. We used to get thirty cents for them."

"Q. And No. 12 lamp jacks, ten per strip?"

"A. If you will let me get my price book I will price everything you have got in your shanty. One thing that a Sales Manager has to learn is not to try to carry any prices in his head."

"Q: You won't undertake to tell me what a No. 12 length lamp

jack, ten per strip, costs?"

"A. Oh, yes."

"Q. How much?"

"A. I can look at the book and tell you. No. 92 jacks, twenty years old now, are good for thirty years more service. I think I read from that yesterday,-No. 92 jacks-here is 92 jacks, 25 jacks,—a jack has been a quarter ever since the world began."

"Q. Did you know that the Western Electric Company was charg-

ing about 27 or 28 cents?"

"A. What's to stop them from charging fifty cents?" 2087 "Q. Did you know that the Kellogg Switchboard Company was today selling them for twenty-eight cents?"

"A. They ought to, if they are not."

"Q. And the No. 12 lamp jack which you say is 30 cents, did you know that the Kellogg Switchboard Company was today selling it at 45 cents?'

"A. No. I think you are wrong there. I can find out and bring

my price book down and keep you busy."

"Q. What's a No. 110 'A' key, Kellogg, worth?"

"A. I don't know. We have about 700 different keys, different springs on each one, ringing and listening keys; I will get my price book and tell you exactly."

"Q. Well, you were undertaking yesterday to criticise the prices." "A. Yes, but with all this multitudinous detail of engineering

details-how many lines have you got? Five thousand. I will tell you in a minute how much you pay for it."

"Q. You don't happen to recall what a No. 110 'A' key costs?"

"A. I don't remember. I had to ask you what it was."

"Q. What is a No. 109 plug worth?"

"A. About sixty cents."

"Q. Would you be surprised to know that the Kellogg Company

has quoted us a price of a dollar today on those?"

"A. How did you get that quotation? I wouldn't be surprised at anything in the telephone business. Are you trying to get others too?

"Q. What is a No. 447 six point cord worth?"

"A. About five hundred seven—I will furnish you all the cords you want for forty-five cents."

"Q. Will you furnish the same kind as the No. 447?"

"A. Yes, ten thousand; I will furnish you one hundred thousand cords, and I will furnish them at that price. I just had a quotation from Belden on those cords,—just bought ten thousand receiver cords last week. Ask me about that price."

"Q. What is No. 163-'E' relay line of cut off worth?"

"A. They have changed those, as well as anything else. I think it was \$2.25."

"Q. Would you be surprised to know that the Kellogg Company quotes us a price of \$5.45 on those today?"

"A. They might quote that to you."

"Q. And the Western Electric Company charges us \$2.35?"

"A. Well, under what circumstances did you get the quotation?" You know I have been in that game many, many years, and it is according to who is ordering the stuff. What's the last time that they sold you anything?"

"Q. Do you know how much No. 84 cable, 63 wire, is worth per

foot ?" "A. It used to be about seventeen cents."

"Q. Would you be surprised to know that the Kellogg Switchboard & Supply Company quotes that now at 41 cents?"

2089 "A. That's good, because we have got about 100,000 feet of the stuff and we will raise our price on it.

"Q. So you gave a figure of seventeen cents?"

"A. That's what we have been selling it at right along. You see we got all of the old cable out of Buffalo."

"Q. Do you know what No. 70 switch board cable, 41 pair, is worth?"

"A. No, I don't."

"Q. You don't happen to know what it is worth?"
"A. I don't know."

"Q. Do you remember what it used to be worth?"

"A. What?"

"Q. No. 70 switch board cable."

"A. About 21 cents."

"Q. Would you be surprised to know that the Kellogg Switch Board Manufacturing Company has quoted us 53 cents per foot?"

"A. It wouldn't surprise me any. Let's see those Kellogg quotations."

"Q. No. 24 switch board cable, 21 pair?"

"A. That used to be 11 cents.

"Q. Would you be surprised to know that the Kellogg Switch Board Company quotes this today at 29 cents a foot?"

"A. Well, you know that most of these companies are shipping to Europe; you know the average American can't buy any metal now."

"Q. So your estimates on these things have no comparison at all, and appear to be from one-third to one-half of the quoted prices today :

"A. From 1914 on. Are you talking 1920 prices, or the average

prices of the last five years?"

2090 "Q. I am talking about prices right now."

"A. I don't care anything about the prices right now; they don't concern this case at all. If you want to talk the prices for the last five years, bring me your 1915 price books, your 1914 price books, your 1915 and 1916 prices, and 1920 price books and put them in the Court here if you want them."

"Q. Now, all of the materials that I have just called off to you

are used in switch boards, aren't they?"

"A. Yes."

"Q. And make up—these ten different kinds of material quoted to you practically make up the switch board, except the frame?"

"A. Yes, some of them."

"Q. Cables and jacks and plugs and keys and relays?"

"A. Yes."

"Q. And cords?"

"A. Yes, sir, very simple devices."
"Q. Those are things that make up cable?"

"A. Cables?"

"Q. Make up a switch board?"

"A. Yes, sir."

"Q. That's true?"

"A. Some of it."

"Q. Now, you have guessed from 331% to 50%-

"A. (Interrupting.) I haven't guessed at all. I have told you what the prices used to be and what I sold them at. I told you I din't have my price book along, and nobody ever remembered 2091 in detail those prices where they have got ten thousand to

remember."

"Q. The prices given us were the prices seven years ago?"

"A. Yes, and from the Western Electric at 45 cents-what about

receiver cords,-give me a quotation on receiver cords."

"Q. Do you know, Mr. Kelsey, that all of these prices that I quoted you here from Kellogg are considerably higher than the prices used by Mr. Hoag?"

"A. Well, I think Hoag was fair enough to go back and get the

average of five years."

"Q. Mr. Hoag's average covered 1918 and 1919.

"A. Well, he ought to have taken the five year average."

"Q. Well, would the five years' average give you a true picture of what it would cost to reproduce the plant,—of what it would cost to reproduce the property?"

"A. It would give us one of the figures,-only one of the ways."

"Q. Mr. Kelsey, if you were called upon to find the value of a piece of machinery out here, would you have to know what money was put into it in order to determine the value of it?"

"A. What is it, public utility machinery?"

"Q. Well, any kind of machinery,—take a street car company."
"A. Yes, you always want to know what a fellow paid for some-

thing."

"Q. Would it be possible for an engineer to value a piece of street railway company property if the books were burned up and he had no records at all?"

"A. Why, yes, then you have no records at all and it is uncertain and we have to resort to that in that case, and it would be

2092 the best possible way we have to get that value."

"Q. Your idea is that you would only take an inventory in a reproduction cost of the property whenever there were no books?"

"A. As one of the ways, yes. I told you this morning when we were dealing with some inventories that the Company resorted to the historical method."

"Q. Take the new telephone building, and it is a pretty good

building-

"A. (Interrupting.) A very beautiful building."

"Q. That building cost about \$200,000.00, and the present reproduction cost of the building would be about \$425,000.00 on the basis of the evidence in this case, and now you say its value would be what it cost?"

"A. Well, what we were after in this case is protecting the investors. It don't make any difference and doesn't matter what the

property is worth.

"Q. But can you put yourself in the attitude of being an engineer

who is going out to find the value of property, irrespective of whether a man lost money or made money?"

"A. According to what? Rate making purposes?"

"Q. Can you conceive value without rate making purposes?"
"A. No, sir."

"Q. You put a handle on it?"

"A. You ought to have the facts, but I do not mean to say that

because a reproduction value, Mr. Frank-

"Q. (Interrupting.) Well, you could speak of the value 2093 of a horse, or the value of an automobile, without knowing what they were used for?"

"A. Why, sure; I would want to know whether it was a trotting horse or a dray horse, and with a good record it would, of course,

bring a higher price."

"Q. Can't your mind work as fast on a telephone company?" "A. No, sir; there is no horse racing in the telephone business. I would want to know whether it was for rate making purposes, taxes, or sale."

"Q. Suppose the property cost \$5,000,000.00, but, as you have assumed, it has been badly managed and the present reproduction cost of it was only \$4,000,000.00 but it actually cost the new stockholders \$2,000,000.00,—what would you say is the value of the plant now?"

"A. For income purposes it is the value of the money they put

"Q. Five or two million dollars?"

"A. What it cost."

"Q. Suppose you had another company that wanted to buy it,you didn't have any matter of rates,-but had a purchasing company that wanted to buy the company now, and it originally cost \$5,000,000.00, the bond holders or the new stockholders have paid \$2,000,000.00 for it and a careful inventory and appraisal, taking into consideration everything they had, going concern value,

working capital, and organization, and everything, was \$4,000,00.00, and you were selected as the Engineer by the purchasing company to go and value the property,-what would

you tell the purchasing company to pay for it?" "A. If they purchased the proposition,-not for rate making?"

"Q. Yes, not rate making."
"A. The least they could get it for." "Q. The very least they could get it for?" "A. Yes, sir, all the traffic would bear."

"Q. Suppose the man that owned it said it cost \$5,000,000.00 and he wanted \$5,000,000,00?"

"A. And him losing money all the time? I would tell them not

to buy it."

"Q. Suppose he would think a little while and say he would take

\$4,500,000.00?"

"A. If I could make money on the \$5,000,000.00 basis and the purchaser wanted it real bad, I might advise him to take it: but if one man failed on the \$5,000,000.00 basis, it is also reasonable that the new owner would have an awfully hard job to make good on the same basis."

"Q. In that case you might recommend to your client to pay

\$500,000.00 more than the reproduction figure showed?'

"A. If these people put in that much money,-in funds-the cost of establishing business again, -in that case the company lost money during the period, so they only had \$4,000,000.00 in

real money and lost money in the meantime trying to engage 2095 in the business. There you have the cost of establishing business again."

"Q. Would you pay more on that account than if the property had always made money?"

Have you a specific case in mind?" "A. Not necessarily.

"Q. As a purchase proposition?"

"A. As a purchase proposition, I wouldn't recommend to anybody to buy any badly mixed up concern."

"Q. Turning to the last page of your report, where you say the earning percentage is 8.6% for the entire Company. You also have on the second page the rate of earning for 1919 as 8.6%. That is your own conclusion?"

"A. What?"

"Q. That is your own conclusion?"

"A. No, sir, it is a mathematical deduction." "Q. Did you get that from the books?"

"A. It is a mathematical deduction."

"Q. Eliminating the 4½%?"

- "A. I am talking about what the owner makes. The owner talks about confiscation and we show what he makes out of the business here.
- "Q. Let's get back to your report. You have here as exchange rental-\$880,439.28, and that, on the basis that you have used, with all the additions you have made and subtractions you have made, makes, according to your figures, an earning for 1919 of 7.7%?"

"A. Yes, sir.

"Q. Now, you were told when on the stand before that that figure of \$880,439.28 was \$134,000.00 too large, because it had the advance rate under Government operation."

"A. We discussed that quite thoroughly."

- "Q. Why didn't you take it out of these figures?"
 "A. You collected that much money during the You collected that much money during the year." "Q. The present rates in effect are \$5.00 and \$2.00?"
- "A. That makes no difference. You collected so much money in 1919 and you made so much money on your investment. Later on, you can come in and show what you did in 1920, but you have got lots of nerve to come here and anticipate this proposition."

"Q. You have made this report, trying to help the Court?"

"A. Yes, sir, showing what you earned. I have said nothing what-

ever about rates, but you made money last year. You may not make any this year.'

"Q. How much light does this give the Court on what the present

rates will produce?"

"A. It gives the Court the light that you earned this much money

last year.

- "Q. If the rates last year produced \$130,000.00 more than the rates in effect now, in all fairness to the Court, ought you to subtract that?"
- "A. No, sir, we will subtract that this coming year when you have it happen. You earned this much money and collected it last year. We have nothing to do with the 2097 rates-

"Q. (Interrupting.) Do you know what the Court is trying to

"A. Yes, sir, I am thoroughly familiar with it."

"Q. What is the Court trying to determine?"
"A. Whether or not you are losing money."
"Q. If we are charging the rates now under the City ordinance, they will produce \$130,000.00 less money?"
"A. This year?"

"Q. Yes, than the figure you use."

"A. That will appear in the statement this year."

"Q. It ought not to be taken out?"

- "A. No, sir, there will not be anything to take out. You will have a less figure this year. What will you take out?"
- "Q. If it produces \$130,000.00 less this year at the present rates?" "A. It has no bearing on the case at all. You earned so much money last year. We are not getting all the tolls that are coming to us.

"Q. If the present rates had been in effect last year, how much money would we have taken in for exchange rental?"

"A. But they were not."

"Q. Answer my question." "A. I took a condition,-not a theory. I found you earned that much during the year on an investment of so much money. I had nothing to do with how you earned it."

2098 "Q. The rates last year were \$3.00 for residences and \$7.50 for business telephones, with some measured rates, six or seven months of the year under Government operation-

Mr. Howard (interrupting): You have that too large, Mr. Frank,-only May, June and July.

(By Mr. Frank:)

"Q. From February 1st,-six months."

"A. It wouldn't have made any difference if you had a ten dollar a month rate. Whatever price you charge on, the fact remains that you collected the rental, \$883,439.00, and if I should take an alleged computation based on some condition or theory-what I may here is telling what this Company earned last year. The first of July, after you had six months experience of this, I looked at your report and I noticed that you were earning less."

Mr. Howard: You are mistaken about that, Mr. Frank. We are not contending that these abnormal revenues should be carried into the returns, but it is a fact that these rates were put in under the injunction only about three months and you had them about three months and the people were not paying their telephone bills.

Mr. D. A. Frank: They paid every bill, or we would have cut them off. Didn't you pay the rate for six months? If you hadn't,

you would have been cut off.

Mr. Howard: I didn't pay any at all for a long time, pending the injunction. I paid it all later. I may have 2099 paid it for the six months. We are not contending this abnormal rate should be carried into this return, if that is the point you make.

"Q. The City ought to have about 100% of the tolls, plus about \$200,000.00? Why are you so modest,—why don't you take it all?"

"A. I thought you told the truth and had it all in."

"Q. Why don't you take the income of the whole Company?"

"A. Only the income that Houston earns."

"Q. If the Court asked the question, to tell him whether or not these rates were too high or too low, all you would care to tell the Court would be last year-

"A. (Interrupting.) There is no question about that so far. They had a pretty good year last year."

"Q. A good year last year with \$130,000.00 increased exchange rental from the Government rate?"

"A. Yes, sir, and I imagine by the first of July you are going to have a pretty good idea of what you are doing this year. You are You can't anticipate about things of this kind."

"Q. Did you know that the \$5.00 and \$2.00 rates have been in

effect for several years?"

"A. Yes, sir, I think so. After a year of that you can find out how much you earn in that one year by those rates,-it 2100 don't matter whether two, five, eight, ten or twelve dollars."

"Q. You think-you wouldn't undertake to tell the Court what

the present rates are producing?"

A. About the first of July, after I see the quarterly statements, I can tell, and then you can recover on the deficit theory. You have still got a chance to recover."

"Q. Your advice to us, as a telephone expert, is to rest easy and it makes no difference how low the rates are .- in some sweet by

and by we will get our money back?"

"A. Be diligent. That is your business. You are not hurt, you will not be hurt by waiting until the first of July. If you have a deficit, you will be entitled to capitalize it."

"Q. The best way to do would be to set down and wait and keep

losing money?"

"A. You are holloing before you are whipped."

"Q. Keep losing money, and when you lose it capitalize it?" "A. Your losses during this next six months wouldn't hurt you."

"Q. Our income last year was \$130,000.00 more on the rates then in effect than they can possibly be this year, with the present rates in effect?" .

"A. You have a very fair assumption that you are going to have a little shortage, but wait until you get it and can see it reason-

ably."

2101 'Q. Speaking about the local exchange losing,-that is true, isn't it?"

"A. It stands to reason, there is \$130,000.00 difference."

"Q. You have \$4,855,392.00 as the total investment,—then \$130,-000.00 would be about 3% of that?"

"A. Yes, sir, but you haven't lost it yet. Wait until you lose it. You have got it here, you earned it this year."

"Q. If we had the present rates last year we would have earned \$130,000,00 less?"

"A. Yes, sir, and it will show in the first six months this year." "Q. That would be a 3% loss on your own valuation?"

"A. You haven't lost that. You earned \$885,000.00 last year."

"Q. Don't you know that it is very easy to prove,-very easy to prove the fact that the Government rate last year did produce \$130,-000.00 more than it would have produced with the new rates?"

"A. The rates you had last year produced \$880,439.00. That is all I know and all I am interested in, and all anybody ought to be interested in."

"Q. According to your own figures, when you have eliminated quite a good deal-when you start with figures you call Company figures, over \$3,000,000.00, and cut them down to \$2,672,-

2102 000.00, you start with a figure that is not accurate and you have taken the very smallest percentage you possibly could of the toll, and even on that-

"A. (Interrupting.) I deny that, absolutely."

"Q. And even on that basis for last year the earning was 7.7%?" "A. Yes, sir, and I find from your questionings this morning that

there is about \$200,000.00 of tolls that belong to this town that they have not gotten."

"Q. Tell us how they could be allocated to Houston?"
"A. They could be."
"Q. In what way?"

"A. Plenty of ways."

"Q. Tell us how, so we can get your story with all of its details."

"A. I will keep that. When you come into court and tell us that of that \$4,600,000.00 toll earnings that \$3,000,000.00 originated here, you let the cat out of the bag.

"Q. How would you divide it?"

"A. I don't know. I want to find out what it is." "Q. You want to go off and make some other figures?"

"A. No, sir, I am satisfied to rest on this record without any further figures. This morning you unhitched a horse in your own

pasture, old man."

"Q. We have a statement here, Scott's Exhibit No. 42, showing that the last four months of last year the Southwestern Telegraph & Telephone Company lost \$49,804.00 before deducting depreciation."

"A. You folks are the best losers on paper I ever knew."

"Q. That was in the City of Houston?"
"A. Yes, sir."

2103

"Q. Would you think, then, you would have to go further than that in order to come into court and ask the Court to give us

relief?"

"A. I don't know what Scott did here,-I am not interested in what Scott did. I found in 1919 that you had a very comfortable year, and we ought to, right now at this particular time, January, February and March, be able to show about what you earned during that period. You come in here and say if you had done so and so. You actually collected and kept in your treasury this much money. It is absolutely absurd, because you made so much last year and have got it in your pockets."

"Q. Have we got it in our pockets for this year?"

"A. I don't believe you are broke."

"Q. If our rates will produce \$130,000.00 less this year than last year, you still think that we ought to wait?"

"A. We don't know until we get all these tolls in here."

"Q. You know the same rates are in effect now that were in effect

two years ago?"

"A. You would not be in Court if they were not, but you are crying before you are hurt on this proposition right now. You have all the protection in the world. When you can tell the Court you are losing money-but you can't today."

"Q. Look at your report. When you got down to the total Houston receipts, \$1,342,535,46, including this \$130,000.00 made from the Government rates, you have "Less Instrument Rentals, \$13,250.00." Your original report put in the 4½% payment. When did you change your mind about the 4½% pay-

ment."

"A. I didn't change it."

"Q. Why did you leave it in your first report and cut it out of the

"A. That was what I found. This is a statement of what the owner of this property is making in Houston."

"Q. And in your Exhibit No. 1 you have "Less 41/2%, \$43,-528.06." Why did you put in the 4½% there?"

"A. I found those figures at the time."

"Q. You found them?"
"A. Yes, sir, and I said at that time: "At this time I don't care to dispute these figures. I expect to, if I am ever called back again."

"Q. You put in 41/2% in your first statement and cut it out of the

second?"

"A. Yes, sir."
"Q. Did you experiment, to see whether or not you could do it and

still get 7% or 8%?"

"A. The owner of this property is making this complaint and is charging himself with a lot of alleged services, just like a farmer owning his own business charging himself with his own work."

"Q. I ask you, on your oath, on this stand, whether you would have cut out this 41/2% if you could have arrived at 2105

your 7.7% any other way?"

"A. I didn't have anything to do with it. I never figured ahead in my life, and never will."

"Q. You have total receipts of \$1,329,285.46 by eliminating the

"A. Not all of it. Part of it is there."

"Q. You have maintenance—\$110,675.96?"

"A. Your own figures."

"Q. Is that all the maintenance?"

"A. No, sir, you have some reconstruction during the year."
"Q. Is that all the maintenance?"

"A. As far as I know; that is the record."

"Q. That is the maintenance in the City of Houston?"
"A. Yes, sir."
"Q. Now, you have eliminated 10% of the long distance—

"A. (Interrupting.) Your maintenance men run out of here and repair these lines. It is absolutely logical; they are here and the repairing is done from here."

"Q. On page two of your report you have maintenance, \$112,-441.00. You didn't inquire how much was toll maintenance?"

"A. That is all maintenance. I didn't care about that, because all I wanted to know was all the maintenance, because-

"Q. (Interrupting.) This report here, Mr. Kelsey, was 2106 the report put in for the City of Houston,-just the local maintenance--

2107 "A. (Interrupting.) You have got this town charged with a great deal more than its share."

"Q. You didn't even try to find out how much toll maintenance there was in the State of Texas?"

"A. No, sir, I didn't. I am not interested in that. from here and every point around here. It is in there." "Q. You didn't inquire what the toll maintenance was?"

"A. Maintenance in the Houston District, and there it is, and a pretty liberal maintenance, too, when you subject it to the test. It must be pretty good, because your plant is 93% good."

"Q. Our toll property is in pretty good condition?"

"A. It has got to be."

"Q. And has to be maintained?"
"A. Yes, sir."

"Q. Do you know what amount of toll maintenance there was in the State?"

"A. I didn't care about that."

"Q. If the figures are for company toll maintenance, \$211,-109.00-

Mr. Howard (interrupting): I would rather you would ask questions, and not testify.

"Q. Is that the figure?"

"A. These men are on your pay roll, and you know it is

common practice."

"Q. You are not taking the position, are you, that there was no toll maintenance?"

"A. It is in there."

"Q. The figures you have got here are the figures we use here for the local maintenance of \$110,675.00."

"A. That is the total maintenance. It is proved out when you go to compare them."

"Q. Where did you get that figure, \$110,675.00?"
"A. That is your figure."

"Q. For local maintenance?" "A. You always put in your best figure when you get into a rate I have never known you to be backward and bashful."

"Q. Did you ask anybody about what the toll maintenance was?" "A. No, sir; I knew you run your maintenance men out of here; they got their supplies from this office and gasoline from this office."

"Q. The testimony in this case-"

"A. (Interrupting.) You can get any testimony in this case that vou want."

"Q. Sworn to by reputable men, is that this \$110,675.96 is for local maintenance. "A.

"Q. May have been him, but that is the testimony."

2109

"A. Your toll maintenance is in there."
"Q. If there is an additional amount of \$211,109.00 for toll maintenance-

"A. (Interrupting.) Then that would be \$20,000.00."

"Q. That would be \$20,000.00 for expense in excess of what you have counted?"

"A. No, sir. You can't show, to save your life, a toll maintenance charge in this district of \$20,000.00, in Houston and what goes out of Houston,-Houston city."

"Q. You are taking a certain percentage of the entire State,

aren't you?"

"A. No, sir."
"Q. Didn't you take a certain percentage, 9.4% of the entire toll lines?"

"A. Yes, sir."
"Q. Wouldn't it be fairer, even on your theory, to take the same percentage of the company's toll maintenance?"

"A. No, sir, because no maintenance—you can't show any maintenance around here of even \$3,000.00."

"Q. Why around here?"

"A. That is all we are interested in-right around Houston."

"Q. But you are interested in taking part of-

"A. (Interrupting.) Repairs by Houston." "Q. Taking part of the plant all over the State-"

"A. (Interrupting.) No, sir."
"Q. You didn't take just 9.4%?" 2110

"A. I have-

"Q. (Interrupting.) You took 9.4% of the entire State. Why shouldn't you take 9.4% of the entire maintenance?"
"A. It is in there already. Your pay roll shows your toll line

reserve."

"Q. But your testimony is that there is no toll maintenance; is there?"

"A. I know it; but I saw it in this report that Mr. Lyndon has. Prove it by Lyndon."

"Q. Show what it is."

"A. Prove it by Lyndon. He will show you."

"Q. You are content to rest on that proposition?"

"A. I will take my professional oath that \$110,000.00 covers all the maintenance you have around this territory."

"Q. But you haven't just taken the property around this terri-

tory; you have taken a percentage of the entire State."

"A. I am talking about the Houston toll line the people pay for." "Q. You took a percentage of property for the entire State, did you not?"

"A. No, sir, I haven't touched on that at all."

"Q. Didn't you take 9.4% of the property for the entire State?"

"A. For toll purposes."

"Q. Why didn't you take an equal per cent of the maintenance?" 2111

"A. It is already in there."
"Q. How much does this \$110,000.00 amount to per month per station?"

"A. My daughter could probably figure that out."

"Q. On the basis of 27,000 stations, it would be about thirty-three cents per month?"

"A. What are you talking about? Your maintenance ought not to run over \$5.00 per station. You can't spend the money."

"Q. \$110,000.00—\$5.00 a station." "A. It would run \$3.50 per station."

"Q. Take \$5.00 a station and 27,000 stations."

"A. Around \$110,000.00. I am talking about four and a half, four dollars and four and a half."

"Q. You said this is high, and that is one of the items we are

proud of."

"A. You are an underground plant."

"Q. That is one item we think is a bif attainment of the telephone company.

"A. That maintenance?"

"Q. Yes, sir."
"A. You have got to attain some more."

"Q. You said \$5.00 a station?"

"A. I am talking about the average plant. My goodness alive! the maintenance of the North Dakota property, scattered over a cold-ridden country, never run over \$4.00."

"Q. Why did you mention \$5.00?"

2112 "A. I know of companies that run to \$5.50. They didn't have this underground plant."

"Q. Five dellars wouldn't be an unusual amount?"

"A. Yes, sir, with an underground plant,—it would be absolutely absurd."

"Q. With twenty-seven thousand stations?"
"A. Yes, sir."
"Q. \$135,000.00 a year at \$5.00 a station?" "A. Yes, sir, would be an overhead plant." "Q. We have charged up only \$110,000.00."

"A. I thought that was what you actually paid for maintenance."

"Q. We charged it up because we actually paid it."

"A. I mean-

"Q. (Interrupting.) You are naturally suspicious?"
"A. I am getting to be."
"Q. You were born that way?"

"A. No, sir."

"Q. Your second item is reconstruction; you know what that is?"
"A. Your books show that that is reconstruction."

"Q. \$9,635.04?" "A. Yes, sir."

"Q. When on the stand before I told you that was wrong. Did you make any effort to find out and get the right figures?"

"A. If that is wrong, you gave us the wrong report. You are in the habit of that. I doubt it very much. You have a lot to say about reconstruction. You have one year \$149,000.00 and \$125,000.00, but at no time did you need a figure higher than the reserve I gave you for that."

"Q. If you want me to, I can give you the figures to work with,—

the realized depreciation by years."

"A. You should have given me those figures-

"Q. (Interrupting:) They were given you when on the stand before."

"A. No, sir; when did you give them to me?"

"Q. When on the stand before."

"A. For what years?"

"Q. Beginning back as far as 1909."

"A. Beginning back further than that. You know you can't go back any further than that. You can't say this whole thing has got to be done in three years. I want your twenty year record, since 1898, and I will tell you what the record from now on will be."

"Q. You charge up for reconstruction \$9,635.04. That figure

was an extraordinarily, -an extraordinary item?"

"A. All of those items are extraordinary. Reconstruction is extraordinary and couldn't be charged in maintenance."

"Q. There was no reconstruction figure, and I told you."
"A. No, sir; you said that year was unusually good, but the year before you did quite a lot more. If you will show this Court, if you are fair enough and frank enough to show your absolute record of reconstruction since 1898, I will abide by anything 2114 you find."

"Q. Why 1898?"

"A. Because you start in with the common battery system and commence to put on the airs you have today."

"Q. Can't you be honest enough-"

"A. I want you to be honest enough to give this Court the record since 1898."

"Q. We are working on 1919."
"A. I am working on the basis of 1898 up to now."
"Q. You have used a figure that I told you was wrong."

"A. I asked you for all the figures and you seem to be afraid to show what happened during the last twenty years,—your experience here."

"Q. Mr. Kelsey, what difference does it make what we spent

twenty years ago?"
"A. I want to know what your maintenance was, how big you were, and then you have something to tell the Court. You can't tell the Court you spent all of your reconstruction in three years. That has to be amortized and covered over a period of years."

"Q. In the year 1912 we spent \$183,903.00."

"A. I wouldn't be surprised; you might have spent more than that."

"Q. In 1913 we spent \$121,396.00."

"A. That sounds like it. Your record is almost typical." "Q. In 1914 we spent \$67,916.00."

2115 "A. I would not be surprised."

"Q. In 1915 we spent \$112,846.00."

"A. That is all right."

"Q. And in 1916 we spent \$121,681.00."

"A. Yes, sir."

- "Q. And in 1917 we spent \$85,720.00." "A. Yes, sir; getting down a little."
- "Q. During the war, wasn't it?" "A. Yes, sir; what was it in 1910?"

"Q. In 1919 we spent \$69,075.00." "A. What was it in 1910?"

"Q. Let's finish this. In 1919, \$32,178.00. On account of the

Government having control of the operation of telephone lines during that time, do you know that the Postmaster General didn't allow

any reconstruction?"

"A. No, sir; he had to allow a lot of things. He did in Cleveland,—\$365,000.00, which they tried to make the Government pay, and the people paid it."

2116 Cross-examination.

Questions by Mr. D. A. Frank:

I understand that the valuation that I have used on the first page of my last exhibit does include something for the intangible assets item of \$700,000.00, or the difference between what was actually paid for the property of the Houston Home Telephone Company and the structural plant that went on to your books; that has been my impression. I understand that it does, and then in that Million, Three Hundred and Seventy-four Thousand, Five Hundred and Sixty Dollars you have accounted for a great deal of it. That figure is the amount of money put into this plant since 1914 furnished me by Mr. Lyndon and his book accountant. If there is \$700,000.00 of that that is intangible property, it is not necessarily entirely all right to have it in; according to the conditions, I think it is in there, because, otherwise, \$1,374,000.00 has resulted in only Forty-five Hundred telephones, there is something radically wrong. I get the idea that there was Four Thousand Five Hundred telephones, because in 1914 you had Twenty Thousand and some telephones, and later on you had Twenty-six. According to that, there are Five Thousand additions, and that is very ridiculously high.

"Q. At the beginning of 1914 we had Twenty Thousand 2117 and Sixty-six stations, and in 1919 we had Twenty Thousand,

Seven Hundred and Seventy-five stations?

A No

"Q. That makes a difference of Seven Thousand, Seven Hundred tations.

"A. No. Twenty-six Thousand, Five Hundred is the figure that I have used, and that was given to me as your average number of tele-

phones in 1919."

If you have got Seven Thousand stations at that expense, that is absurdly high for stations, even at this time. That is pretty near \$200.00 per station. I am inclined to believe that the Twenty-seven Thousand is included in that. You can find that out and show the Court clearly by Mr. Lyndon and his accountants about that.

If you paid \$1,300,000.00 for the Houston Home Telephone

Company's property, you were very foolish.

"Q. If it is admitted that we were very foolish, if we did, and we had the actual value of the plant of the Houston Home Telephone Company, that we put on our books as something over \$600,000.00, leaving \$700,000.00, what would you say ought to be done about the \$700,000.00?"

"A. Well, there is no question but what the letting in of the sec-

ond telephone company in Houston was an economical error 2118 on the part of the public, and that amount should be charged to the people in some form or other, but it should be amor-

tized over a period of years, and carried as a permanent account." "Q. That is right. Now, the \$700,000.00 for the present, though, under the Interstate Commerce ruling, would have to be carried in your plant account or in your capital account."

"A. (Interrupting.) You mean indefinitely?"
"Q. Not indefinitely, but would be carried as an intangible and

amortized,-that is correct?"

"A. No, you can't charge that entire amount up to one year—it's 1919,—it should have been reduced by this time considerably, very materially."

"Q. It has been reduced."

"A. How much reduced? Before we get into this discussion, how much has it been reduced?"

"Q. I am not on the stand; but the \$700,000.00 ought to be car-

ried into that plant account until it is amortized?"

"A. We ought to know that before we go into this. How much is it? I have found it awful hard to get information from you and I think you ought to enlighten the Court as to what that has been."

But the \$700,000.00 ought to be carried into that plant account until it is amortized. I always insisted that the admission of the second plant was an economical error, and the public

is responsible for it, although the public is not always wise in their selections; so that, if the balance of the intangible that has not been wiped out has not been amortized yet, if that balance has not been included in the Thirteen Hundred and Seventy-four Thousand Dollars, it ought to be included, but in addition to that we ought to have a most thorough investigation of what that Thirteen Hundred and Seventy-four Thousand Dollars is for. normally high. I have not seen the evidence, but I can not see how any evidence can justify a figure of almost \$200.00 per station.

I admit that what I tried to get to start with in 1914 was the valuation of the Company's property for rate making purposes at that

time.

"Q. Well, for rate making purposes. Now, if there is about \$700. 000.00 left out of that, that would make an additional \$700,000.00 that ought to be added on, wouldn't it?"

"A. Why, I think fundamentally that would be true, if it were

the fact.'

"Q. Now, coming to your exchange rental. If the Master desires to know what the income would be for the first year, you would have to calculate on the basis of what the Company was spending now, wouldn't you?

"A. I would suggest that he wait and get the quarterly

2120 statement and see what it is."

"Q. But the Court can't wait, of course, for time to go by on a thing of that kind."

"A. Yes, and I said yesterday, you had rushed in here before you were hurt.

"Q. Do you still stick to your statement that we ought not to sub-

tract the \$130,000.00 from the \$180,000.00?"

"A. Certainly not, because you were dealing in 1919. The question of what you earned in 1920 is an entirely different matter. In that case you may show a loss; I have no way of knowing yet, but you have so many factors entering in here in the way of tolls, miscellaneous sales and rentals—"

"Q. In 1919, if the exchange rentals were \$180,000.00, and included in that was \$130,000.00, due to the accrued increase rates under Government control, then if the rate would produce the same in 1920, merely for exchange rentals, it ought to be reduced by

\$130,000.00, oughtn't it?"

"A. No, no; you can't tamper with your 1919 business. You have a certain earning for that year and I don't see how you can

go in and juggle and manipulate."

"Q. Mr. Kelsey, does it take any juggling to determine that a certain number of telephones at \$2.00 per station and a certain number of telephones at \$5.00 per station will produce \$130,000.00, or more, if you make the rate \$7.50 and \$3.00?

"A. It would be very rank juggling in this case. You 2121 know the present part of this year ought to tell the story.

"Q. You mean to say, then, that for 1920 an estimate for the exchange rentals would be \$130,000.00 less than the figure you have used?"

"A. It might not be."

"Q. You can't say that. Will you explain to us how it would be possible for the same number of stations to produce just as much money at the \$2.00 and \$5.00 rate during 1920 as was produced in 1919, with the \$3.00 rate and \$7.50 rate in force for six or seven months of the year?"

"A. But so far as your rental is concerned, that is very obvious; but you know your company is a financial company as well as a long distance company; you have many ways of earning money; you can apply that to your rental and it would undoubtedly be

\$130,000.00 lower.'

"Q. We are talking about the Houston exchange."

"A. So am I, and as the Houston exchange we share in all the

successes and failures of the home company."

"Q. No, Mr. Kelsey, Scott's Exhibit No. 42 shows exactly what the four months ending December 31st, 1919, produced under the present rate. Would that convince you in any way?"

"A. It doesn't interest me whatever; we are dealing in the 1919

report; that is your fiscal year, you know."

"Q. You would not be interested in knowing what these rates produced during the four months they were in effect?"

2122 "A. No; I would like to begin at the first of the year, under all conditions. A very proper test would be the first six months of this year, to give this Court an accurate idea. Conditions change; conditions in 1919 have nothing to do with 1920.

Your toll earnings are different, your rental earnings are different; they all ought to be in here. The more I get into this case, the

more I think we ought to have some information-some more information than we have had. I took your word for a lot of these figures, but I begin to suspect some of them."

"Q. What is the basis of your suspicion?"

"A. You gave one figure of Nine Thousand yesterday, and now you say Thirty Thousand."

"Q. You say that the Nine Thousand was extraordinary re-

pairs?"

"A. That is what I call it."

"Q. And the \$32,000.00 was replacements?" "A. But it was in your maintenance account."

"Q. It is very proper to be in our maintenance account."

"A. We credited you with it; you spoke of a mysterious toll yesterday-

"Q. (Interrupting.) Isn't there something further back of your suspicion, Mr. Kelsey?"

"A. No, the greatest suspicion I have is that I haven't all of the figures."

"Q. Isn't your suspicion due to the animus you have towards the Western Electric?" 2123

"A. No."

"Q. The American Telephone Company?"

"A. Not the least bit of suspicion towards any of them." "Q. Towards the Bell Company and its employees?"

"A. We have stock in the Bell Company. I have known those gentlemen for years. In fact, the Bell Telephone Company is my meal ticket-my extra money. I would hate to have them-

"Q. (Interrupting.) What do you mean by your "extra money?" "A. This work that I do around here in Houston, Cleveland and Minneapolis. The A. T. & T. has been one of my best little spending monies that I have."

"Q. You make your spending money off the A. T. & T.?"
"A. Yes, sir; I simply am forced on the pay roll against the A. T. & T. all the time."

"Q. You make your extra money that way?"
"A. Yes; the City of Houston asked me to come down here and make a study of this case. If you did, I would do it for you."

"Q. Would your testimony be different?"

"A. It might be, but you know my ancestors never had that little boat called the Mayflower."

"Q. Would your testimony in this case be the same if you had been representing us?"

"A. Well, I should say it might not be. A man has to admit that he has to serve his clients, necessarily, and get

the best points out of each case. Attorneys have to defend criminals when they know they are guilty sometimes."

"Q. Where a man swears,-you know, an attorney does not

"A. It is a good thing they don't; they would all be in the penitentiary; that is the advantage you have over a civilian."

"Q. Now, one of the reasons you have got it in for the Western

Electric-

'A. No, I haven't. I have the greatest admiration for the Western Electric Company. I go around there a great deal and visit the boys and go over their plant. They are glad to see me out there. I buy their goods."

"Q. You stated yesterday that they ruined you by flooding the country with telephones at fifty cents?"

"A. They didn't ruin me. They tried to, but they couldn't do You see, there is that lawyer part. I said that they tried to sell them, but after they found out they could not sell them, then they tried to rent them and they didn't succeed very well."

"Q. Did you rent any at fifty cents?"

"A. No, I sold them outright. They stand in line wanting our stuff.

"Q. The Western Electric couldn't rent them at fifty cents?"

"A. The Bell Company rent them; you see, for years the Bell Company and the Western Electric Company tried to run a little missionary department and tried to rent,-get them to use your apparatus, but somehow or another, after they try it for a while, they didn't see the virtue in it that you folks do.

"Q. Do you know what the regular rental of these instruments

are?

"A. Yes, fifty cents a year."

"Q. Where?"

"A. Everywhere. I never heard of any independent company ever having its instruments left on them."

"Q. Of course, you have kept up with the rental of telephone in-

struments, haven't you?"

"A. Well, yes, you know, almost every telephone man in the United States has come to me with his troubles and told me his problems. In fact, we have a free consulting bureau there."

"Q. But while you were a professor-

"A. (Interrupting.) A professional baseball player,—don't leave that out; I am proud of it. I am more proud of that than anything. Don't leave that out of the record."

"Q. You didn't have time to keep up with the prices on telephone

instruments?"

"A. I had to keep up with it, because they were coming to me with

"Q. Did you know that in the City of Dallas, right there, there is the Dallas Telephone Company that has a great many telephonee, and that we pay them a dollar a year for the rental of their instruments?" 2126

"A. Oh, you can do anything between yourselves.

have a very great faculty for making wonderful contracts."

"Q. Did you know that there were one hundred telephone companies in the United States today that were paying a dollar a year for the rental of the instruments?"

"A. Do you own them? That is the thing that interests this

Court,—is what that investment of \$13,000,000.00 is. Then we might believe some of that stuff."

"Q. The testimony in this case shows that the rental — worth

\$1.10 per instrument per year."

"A. Whenever you can get control, you can make it worth \$2.00; but I am talking about free and uninterrupted; a man who has his own judgment in this matter never would pay more than fifty cents;

you can never get him to pay it."

All the independent companies that are not connected with your company are not all paying a dollar a year; they buy their own telephones. I sold more Kellogg telephones in Texas than in any other State in the Union; it is one of our best States. They always did get fifty cents. I am talking about independent companies; none of those fellows you make a gentlemen's agreement with. I do not now know of one company in Texas that is getting their rental at fifty cents; out of two hundred and sixty-two companies, I do

not know of any now; I do not think that they would pay

fifty cents for your telephones. I don't think any of them wanted such an agreement. If they were left to their own volition, they would not pay forty cents; they would buy them in preference; they can buy a better telephone than they can rent from you.

"Q. Mr. Kelsey, your division of the long distance line leaves out, of course, the Two Hundred and Forty-five Thousand, Nine Hundred and Thirty-nine connecting line stations in Texas?"

"A. Oh, I don't know anything about that; you know that has nothing to do with what your company earns."

"Q. It leaves out of consideration the toll property in about fortyseven other States of the Union, that occasionally are used?"

"A. Your company had left for the year \$4,600,000.00 from its

toll activities."

"Q. Now, during the year, or the last two years, the City of Dallas with thirty-seven thousand stations, or thirty-three thousand stations, has been sold by the Southwestern Company.'

"A. (Interrupting.) To themselves?"

"Q. (Continuing.) To the Dallas Telephone Company."

"A. To themselves."

"Q. There are something over thirty thousand stations, Mr. Kel-

sey, that you did not include."

"A. Oh, yes, the earnings that your company got from 2128 those stations appears in your annual report, and you netted \$4,600,000.00. It don't matter whether you stole it or how you got it,-you have got it.

"Q. Suppose we are paying the telephone company in the City of Dallas a certain percentage of the originating tolls for handling the

toll business there?"

"A. You are paying them that twenty-five per cent, unloading

with all the expense."

"Q. The balance of it, seventy-five or more per cent of the tolls, originating in Dallas, is included in this four million dollars, isn't

"A. Not necessarily, oh, no. The net income that your company

gets out of all transactions amounts to \$4,600,000.00. You can't escape that. Now, you may have an agreement with your combined company, but the net results appear in your accounts. You are not reporting to anybody else that you are not earning this \$4,600,-That isn't a gross toll earnings; that is the net toll earnings 000.00.belonging to your company."

"Q. What has been taken out?"

"A. Your own expense. That is the net proceeds.

"Q. The expenses have been taken out?"

"A. All of your expenses down below,-maintenance, depreciation, traffic, commercial, general, taxes and all."

"Q. Did you ask anybody that question?"

2129 "A. I know that this is all the money that you expended in your business during the year,—running your entire business

for the entire company. Do you have a secret fund?"

I know that the maintenance expense of \$1,112,441.00 had a maintenance charge in it of over \$200,000.00 to the tolls, and what is your supervision of maintenance in Houston but your general loading of the whole company? Oh, yes, that has something to do with it. It is the maintenance of the whole company loaded, that you could not apply to Houston locally; you turn around and apply it generally. It is absolutely unthinkable that this town would spend \$18,000.00 for maintenance in supervising a little plant of That is the kind of maintenance that you can't localize in this town, and you turn around and generalize it. After I left last night, I got to thinking, and I said, this toll maintenance is there, of course, but it is camouflaged beautifully in what they call supervision. I think you have said a great many times that the books are kept in accordance with the Interstate Commerce Commission's rules. I do not know that to do what I have just said that would cause them to penalize you; you have got a perfect right to localize all of your earnings.

"Q. Do you know that some of the calls for which this \$4,767, 000.00, included in this, originated in Dallas, Waco, Marlir, Temple,

2130 "A. (Interrupting.) Of course it did, but that was the

net result of your transactions."

"Q. (Continuing:) Sherman, Denison, Denton, McKinney, Texarkana, Greenville, Brownwood and San Angelo, and that under your system these towns would not get any allocation at all of the

toll plant."

"A. Why, they have all had their allocation. Why didn't you put Halifax in, and Nova Scotia? That don't make any difference. In your expenses, where is your deduction for expenses and commissions paid? This is your net tolls. What are you talking about? All mileage charges have been settled with McKinney, Sherman----"

"Q. (Interrupting.) Mr. Kelsey-"

"A. (Interrupting.) Let me name them all. With Dallas and all those other points, that has all been settled and this is what is left. That is the pride and glory of the Southwestern Company,—

that they are earning almost as much tolls as they do in rentals. You keep all of your rentals and this much is what you keep of the tolls. It is a wonderful concern."

"Q. Let me ask you if one hundred per cent is paid to the City of Houston, if we are not putting something over on the connecting companies?"

"A. One hundred per cent of all the tolls that are left belong to

the company.

2131 "Q. Just take any particular call now,-a call that goes from Houston to Dallas?"

"A. Yes."

"Q And is paid for in Houston."

"A. Yes, sir.

"Q. And costs \$2.50."

"A. Yes, sir."

"Q. Now, your idea is that that whole \$2.50 ought to be paid to Houston?"

"A. Yes; supposing Dallas calls Houston and they pay \$2.50 out of that net,-who keeps that in that case?"

"Q. All right; let's suppose that a call starts at Waco and comes

to Houston over the Texas long distance lines?"

"A. According to your figures, you don't get any credit for that at all. That is why I say that I am getting suspicious of your accounting, because you showed yesterday a million dollars that you have not got credited."

"Q. The entire company would get twenty-five per cent of the call. Oughtn't we to get the additional seventy-five per cent, or the whole one hundred per cent of it?"

"A. No, no; you have what is left. You pay them an originating commission, and then you have your mileage settlement. You get the mileage; I don't know what that is."

"Q. There is no mileage settlement." 2132

"A. That is, over your lines."

"Q. No, the Texas company,—not our own lines."

"A. That makes no difference,—what you get; it is apparently credited up in Dallas instead of here, in a call of that

"Q. I am asking you if it wouldn't be fair if the telephone company gets one hundred per cent of this commission?"

"A. No, not at all; that has nothing to do with this case. don't seem to understand it, and I don't think you want to."

"Q. Do you understand it?"

"A. Absolutely. I have been off this since 1904."

"Q. Does anybody in the world believe in this theory but you?"

Mr. J. D. Frank: Any Court ever follow it?

"A. Well, the Dominion Railway Board accepted our views of one hundred per cent. Mr. Bloom went up there and tried to put over seventy-five per cent. Mr. Bloom said: "I am going to be liberal and allow seventy-Sve per cent." I said: "Mr. Bloom, you are going to be liberal and allow one hundred per cent"—and the Commission allowed it."

"Q. You testified in the Birmingham case, didn't you?"
"A. Yes, you bet I did. And tried it well. That is the That is the first time you folks ever loosened up and allowed it."

"Q. Did the Commission allow it there,—did they allow it there?"

"A. Why, certainly they did; it was not protested."
"Q. We have the opinion here; I want you to take the 2133 opinion and find it."

"A. You find it. You have been talking about that Birmingham case and four-flushing about it; now come clean on it. The first crack out of the box you sprang Birmingham on me, and then you retreated."

"Q. Then you went to Cleveland and you tried the same thing up there. Did they pay any attention to you at all there?"

"A. You bet they did."

"Q. Did they?" "A. Yes, sir."

The Chairman of the Commission did not say that there wasn't any use of cross examining me. You are the first Bell attorney to cross examine me for quite a while, and I am greatly obliged to you They did not cross examine me up there at Cleveland; I wish they had: I would have filled that record with something the Commission wanted to know. The City of Cleveland,—the conditions there are entirely different; Cleveland is an isolated concern and connected with no outside concern.

I did not say I had testified in three hundred cases; I have ap-

peared for probably a thousand times.

"Q. Did you ever ask for one hundred per cent of the tolls

in any other case besides these cases?" 2134

"A. In Kansas City and Montreal; we have always asked for what we took in. We tried our best to analyze this situation. You all never come clean on this. If you didn't have all the expense of your tolls loaded in here, it wouldn't look so bad, but you have got everything in here loaded with as much as you can get."

"Q. Well, we will clear that up before we get through, to your

satisfaction.

"A. I hope you do."

"Q. What per cent, ordinarily, of the subscribers in a town like Houston use the long distance service?"

"A. Well, not a very large per cent. I don't think in Cleveland

over thirty per cent of the subscribers used long distance."

"Q. Then there is seventy per cent of the local subscribers who don't use the long distance to amount to anything?"

"A. Oh, yes; your telephone business—ninety-seven per cent of

your calls are local."

"Q. Then, if your system of allocating the long distance tolls to the local exchange is sound, Mr. Kelsey,—and I am asking you now as a telephone expert,-if that is sound, then if you had a toll linehad toll lines that were not making any money,-say that they were losing money,—you ought to raise the rate in the local exchange in order to take care of it?"

"A. Why, that is done. We always, in a rate case, show that a company is losing money. You folks for years said that you never could separate your local and long distance, and if you were losing money in your long distance business, why, naturally, you have got to get an income from somebody, and you reach out for the nearest relief, which is through getting your local rate raised."

"Q. So your idea is, if we would lose money in the long distance

business, we ought to penalize the local people for it?"

"A. No, you have revenues of all sorts which you are charging them for.'

"Q. Then, your idea-

"A. (Interrupting.) To get right back, it is just as expensive to have these long distance people ready for you as it is to use it."

"Q. Let's assume the case, now, of where the toll lines were not making very much money?"

"A. I know, but you can't assume that condition in Texas, because you are making money."

"Q. Can't you think of that, Mr. Kelsey?"

"A. Yes, I know of lots of long distance companies that are not making money."

"Q. Name one that isn't."

"A. The long distance business-I don't think the Ohio 2136 State ever made any money on the long distance business."

"Q. Well, name some town in Ohio that would be connected with the Ohio State Company."

"A. Why, Cleveland, Columbus, Dayton."

"Q. All right, take Columbus, for instance; if you were testifying in a case at Columbus and the long distance lines were not making any money-

"A. (Interrupting.) Yes."
"Q. (Continuing.) Would you allocate a part of the long dis-

tance line to Columbus?"

"A. If they were locally owned by the same concern, but they were separate companies. You wouldn't have any trouble in this case if you had a separate long distance company."

"Q. Do you know of any case where they are not separate?" "A. Yes, in the North Dakota Independent,—we had one pot for the whole thing.

"Q. In the North Dakota case, did you allocate a part of the long distance lines to the local exchange?"

"A. We always did,—every dollar they took in."

"Q. So that if you were making twelve per cent in the local exchange alone and allocating a part of your long distance lines, you could cut your percentage down to six per cent, you would do that?"

"A. Oh, we did, whether we lost money or made money on our tolls, lost or made money on the rentals. We always had a 2137 composite rate case. You claim ever since the world began that you couldn't separate these accounts."

"Q. You would try to put in a part of the tolls into an exchange

where the exchange rates were very high, would you?"

"A. If they were owned by the same company, we always put them in."

"Q. Supposing that you were earning practically nothing on the long distance lines and earning eight or ten per cent on the local exchange?"

"A. Well, your company is still in business, and that is one of

their ways of earning."

"Q. You would then allocate a part of the long distance lines to

the local exchange?" "A. Why, yes; you ought to allocate to Houston even a part of

your earnings on your investment."

"Q. You think that would be considered by a Court or Commission?"

"A. Why, certainly; it is considered."

"Q. Can't you fix your local rate so that you would earn money

on your long distance lines?"

"A. No, that has nothing to do with the case. You have plead, and always have pleaded, as your justification for charging that it was because you lost money in the smaller communities. That has been your strong claim all these years."

"Q. How long have you been advocating putting in all of the tolls

to local exchange account?"

2138 "A. When it is one company, I have always."

"Q. I didn't ask you that question."

"A. Always; in Kansas City, in the old Kansas City rate case." "Q. Name one decision by a Court or Commission that followed you."

"A. Well, that is something for the attorneys to find out. I am

not interested in that."

"Q. You have testified in three hundred cases?"

"A. Even after I leave the case, I never take the pains to read the case."

"Q. How many times did you advocate that in the three hundred cases?"

- "A. Always. You know, if I had not been consistent, you would have had me pinned to the cross the first hour in this case. I have had a consistent program for sixteen years and I have never swerved an inch."

"Q. And nobody has followed you an inch?"
"A. I hope not. I don't care."
"Q. Is your name even mentioned by a single Court or decision, in a single decision?"

"A. All I am after is this coin.

"Q. Have you, Mr. Kelsey, counted an thing in your figures, in your set-up here, for taxes on the long distance lines?"

"A. Oh, yes, they are in there"

Q. Just show me where your proposition is."

"A. All right. Now, your outside taxes are \$693,685.00." 2139 "Q. \$693,685.00?"

"A. That includes your income taxes, and all."

"Q. All right; show me where you proportion any of them in this set-up."

"A. I have not proportioned anything, because your taxes of

\$99,000.00 are very unusually high."

"Q. Well, the taxes in Houston are unusually high, aren't they?" "A. Because the taxes for telephone stations run about \$2.00, and here you have got almost \$3.00, or more."

"Q. You think that is pretty high for them?"
"A. You are paying pretty high taxes; I know you are not responsible."

"Q. Who made these high taxes?"
"A. The community in which you live, which have to pay all their expenses, meets all of these higher costs."

"Q. The taxes that you have here-\$99,965.00,—what is that?" "A. Well, that wasn't what is left out of your income taxes, but I think that is your full proportion of normal taxes."

"Q. It is nothing on earth except the taxes that are actually paid

in the City of Houston."

"A. The physical taxes—I think you can find out more in detail from Mr. Lyndon, why we deducted that."

"Q. Well, you did not allow anything for the income taxes paid,

did you?"

"A. No, because you know that the stockholder himself has got to pay that; he ought to, at least, but, of course, in private business they don't; we pass it on. But you folks are caught in this proposition."

"Q. Now, Mr. Kelsey, you had the figures \$123,461.49——"
"A. Yes."

- "Q. (Continuing:) All of taxes actually paid for the City of Houston?"
 - "A. Yes."
 "Q. And you had that before you made any allocation whatever?" "A. No, I did not make any allocation."

"Q. Of the toll lines?"

"A. No."

"Q. You had that when you were on the stand before?"

"A. What was it?-\$123,000.00?" "Q. \$123,000.00,"

"A. All right, one-sixth of your property is in this town. total taxes are only \$130,000.00. Now, by this deadly parallel again, Houston is paying more taxes than it should on this basis. You said the maintenance was charged to Houston. I said "charged," or do they actually spend it? Now, you have charged these taxes to Houston, which is about twenty per cent."

I know that the tax rate out in the country is not as large as it is here in Houston. You see, you do not like to go into the . things as a whole. Here's all of your taxes, your total taxes

your company paid during the year was \$693,000.00. one-sixth of your property is supposed to be here. Your taxes would show that you are carrying your proper burden."

"Q. Suppose the City of Houston didn't think it was, and stuck \$123,000.00 on us?"

"A. But part of that is income; I didn't stick that on you." "Q. All right, take \$99,965.00 that was paid to the City of Hous-

"A. They did in other places."
"Q. We paid that in Houston."

"A. County too, didn't you, and State?"

"Q. In the City of Houston,-for County, State and City."

"A. Yes."
"Q. Now, you went out and got all of our long distance property and allocated it to Houston, didn't you?"

"A. Yes, because we had always paid our share of the total tax on it."

"Q. You did not bring in Texas with it, when you did it?"
"A. Yes, it all is; it is more than here, Mr. Frank. You have

got 161/2% of your property in this community, but you have got it loaded with practically 20% of your taxes."

"Q. Is there any tax at all in the City of Houston on the \$808,-

000.00 of long distance property?"

"A. There is in the State."
2142 "Q. Why didn't you bring it into your statement?"
"A. We are paying our share. You have allocated and loaded everything on Houston that you could possibly get, because it is human nature; if you ever missed putting a dollar in it, I am surprised."

"Q. Wasn't \$99,000.00 the actual figure, Mr. Kelsey?"

"A. I don't know. Mr. Lyndon furnished these figures, and when that gentleman comes I want you to solve that with him."

"Q. And you didn't figure anything at all on this \$808,000.00?"

"A. Yes, I did."
"Q. It is in there?"

"A. Why, certainly it is. That is why I went to Dallas and got your General Office expense."

"Q. Now, if we paid it to the City of Houston, then we paid to the

City of Houston-

(Interrupting.) Altogether, your company paid every-Houston, Dallas, Fort Worth, the United States Govern-"A. (Interrupting.) ment, the State of Texas, and all the Counties in them, \$693,685."

"Q. How much city taxes did we pay the City of Houston on the

toll investment of \$808,000.00?"

"A. I don't suppose you paid any."

"Q. You say it is in there. I wanted to know how much is in there."

"A. Because it is bound to be in there. You have got one-sixth of your property. I am talking about the load that your company carried in this town. This maintenance load is something that you charged here-"

"Q. (Interrupting.) Do you realize that you are under oath and that you are swearing?"

"A. Yes, you bet. You have never let me forget that for a minute. You have kept me out of trouble all during this case."

"Q. And still you say that no taxes ought to be allowed on the

\$808,000.00?"

"A. It is allowed and it is in here, Mr. Frank."

It is in there, because I have said repeatedly that during the year the total taxes paid, every community, every hamlet, every township, every county, every part of the State, the United States Government, and all, was \$693,685.00. They have charged this community down here an amount which, instead of being about one-sixth, as it right to be, is about one-fifth. I don't care about the fact that the taxes in Houston are about double what they are around the rest of the State; the figures are here.

"Q. But the City of Houston collected from us \$99,965.00." "A. That is all right; the City of Houston is diligent."

"Q. Now, if you are going to allocate \$800,000.00 worth of long distance property, can you conceive of it being fair to allocate some of that \$808,000.00-

"A. (Interrupting.) No, you have already got it in there, because the taxes that you paid to the City of Houston is in this \$693,000.00, and by a strange coincidence one-sixth of your property is located here, but you have got one-fifth of your taxes

loaded here. Now, it is very curious; now, you know that you have got Houston loaded with everything the old camel will bear, and it would be natural for you to do it in a rate case, -to put all of your expenses in, and you never missed an opportunity to leave out a

"Q. If the Court should tell you,—if you knew that the Court was going to-that the \$808,000.00 was not going to be allowed as an item, then would the \$99,000.00 tax have to be cut any?"

"A. I am not interested in that."

"Q. Ought it to be cut? Suppose you were instructed by the Court to confine your property to the property within the City limits, would the \$99,000.00 be cut in any way?"

"A. No."

"Q. It wouldn't be cut, would it?"

"A. I can't see how it would. You would have to pay it. can't conceive of the Court refusing to consider this \$99,000.00."

It seemed reasonable to me to throw out the income tax. You claimed that you are losing money, so I can't imagine how you could be charged with that when you are losing money. Mr. Lyndon had that view point, and that is for you and him to fight out. When I went to Dallas and found out your total

taxes of \$693,000.00 for the entire company, I felt that we were not

It is a fact that taxes in Houston are higher than in any other City in Texas.

"Q. On that account, because of the fact the City of Houston is higher than any other City in Texas, you would not allocate any taxes to the long distance property?"

"A. You have got it allocated; you must have, because your total tax is \$693,000.00, and when you compare it, -one-sixth of the prop-

erty is here and you have got about one-fifth of it."

"Q. Why didn't you investigate it?"

"A. I wasn't interested in that particularly. I think you and Mr. Lyndon can fight that out."

"Q. Who is going to pay the taxes that you have thrown out?"
"A. You have already paid it—\$693,000.00."

"Q. What community is going to pay that?"

"A. All of them, -everyone in the telephone business."

"Q. What about general expenses?"

"A. You have it in here."

"Q. \$377,384.00, general expense for the entire company."

"A. Yes, sir."
"Q. Did you put any of that general expense into your 2146 set-up,-in your new set-up?"

"A. It is all in there. You have a general expense of \$377,-

000.00."

"Q. How much did you put it?"

"A. I accepted your figure for it. I compared it and found out that Houston was bearing a share."

"Q. Our figures were set up for local exchange?"
"A. No, sir. You have no general office expense here of \$48,-640.00; it would be absurd."

"Q. Why would it be?"

"A. It is ridiculously high. That is your general office loading. You know that very well. It is carried out through the community."

"Q. Do the toll properties bear any of the general office expense?"

"A. Sure, you are all doing it."
"Q. Why didn't you allocate—

"A. (Interrupting.) It is all here." "Q. Did we make up this set-up?"

"A. Yes, sir, you did."
"Q. We made the set-up for the local exchange?"
"A. Yes, sir; you have everything in here possible to get. "Q. And you got ten per cent, or nine and four-tenths per cent of the property and brought it in here and took the whole one hundred per cent of the tolls?"

2147 "A. I thought the Houston subscribers ought to bear their

share."

I did not bring in my nine and four-tenths per cent of the general expense; that is already in here, allocated in here. I brought in nine

and four-tenths per cent of the taxes.

I did bring in nine and four-tenths per cent of the maintenance; it is all in here. All you have got to do is to compare your total with your Houston figures. It is a remarkable coincidence if Houston escapes her share.

"Q. Did you find out there is some operating expense for the toll plant around over the State that was not allocated?

"A. Yes, sir; it is allocated in here."
"Q. Where?"

"A. In your supervision."

You have maintenance supervision and traffic supervision. don't suppose it costs \$26,000.00 to supervise traffic in this town. You have got a commercial expense in this town of \$74,000.00, and then I find that you have \$10,657.00 of general commercial expense left. That is not on the local exchange; Houston district. You run out of here and repair your toll lines, and your boys take out the wire and cross arms, and all those things, and they go half way to Galveston and Galveston comes half way here. You know very well that you have no separate long distance operation at all.

Your toll line repairs are paid out of the Houston exchange. The toll expenses are charged right in here. I did not allocate any to the City of Houston,-you are very peculiar.

The biggest item of your expense is in the operators and you have them all here, and then you go and quarrel with little petty maintenance or little petty general expense.

"Q. If you are going to divide all the expense of the toll of the

"A. (Interrupting.) Does the local manager watch the toll lines

out of here?"

"Q. I asked you this question. If you are going to divide the toll expense of the State, oughtn't you to find out what the total

expenses are?"

"A. I don't know what they are. Ever since 1904 until I struck your remarkable personality in this case, you always insisted you could not separate them. Now I find a separation suddenly evolved

"A. You just now said you did. You came in vesterday showing that you had \$40,000.00 maintenance on toll lines."

"Q. Didn't you know there was any on a toll line."

"A. Yes, sir; there is maintenance even on a brick house."

"Q. What you did was to take the line and take all of the reveunes and ignore the expenses?"

"A. No, sir; the expenses are all here. These expenses of 2149 the running of the Southwestern Company have been all paid and loaded on to the place they belong. There never was a company in the world that didn't allocate its expenses to where they belonged, and that is what you done, and you do it beautifuly, too.

"Q. The revenue you have got in here is the revenue for last

year, and not prepared for this year at all?"

"A. No necessity for it."

"Q. Let me detail just a few of the things that you have in here, about which, at least, there is some question.

"A. I don't think there is a question about the figures."

"Q. Under receipt, exchange rentals, \$880,439.28, of which \$130,-000.00 is due directly to the increased rates which were charged during Government control,-that is item number one. Item No. 2—the tolls,—you have allocated a full 100%.——'

"A. (Interrupting.) I haven't allocated at all. That is what

you done."

"Q. Which means \$441,029.80——"
"A. (Interrupting.) There is no allocation there."

"Q. So, whereas, if this was an independent plant and the toll lines belonged to a separate company, 75% of that would have to be thrown out and only 25% retained."

"A. This is not an independent company."
"Q. That is item No. 2. Item No. 3 is that there should 2150 be $4\frac{1}{2}\%$ of the total gross receipts, amounting to about \$58,000.00, for the $4\frac{1}{2}\%$ payment, and you have thrown that all

"A. No, sir. The owner gets that anyway. That is all in there.

When you count that money up it is all there.

"Q. You have thrown that away."

"A. No, sir; I haven't taken that away from anybody. It is all there."

"Q. And instead of that you put: "Less Instrument Rental, \$13,250.00."

"A. Yes, sir; fifty cents per station."
"Q. You have taken the maintenance \$110,675.00 in the City of Houston."

"A. That is local maintenance."

"Q. Reconstruction \$9,000.00, when the Local Reconstruction was \$32,000.00. That makes \$23,000.00 more."

"A. No, sir; it is in the maintenance. That is part of your

\$110,000.00 maintenance."

"Q. You have been told we would be subject to a \$5,000.00 fine if we did that."

"A. No, sir; that reconstruction is in your maintenance account,

and you know it is."

"Q. The testimony in this case, Mr. Kelsey, shows there is \$32,-000.00 in addition to the \$110,000.00.'

"A. Why wasn't it in there?"

2151 "Q. Because it is not properly chargeable as maintenance.'

"A. Why wouldn't all the maintenance chargeable to Houston be

in here?"

"Q. The other items you have in here are for the local exchange down to total disbursement. If, however, the Court should conclude a part of the tolls should be counted in the City of Houston, you would have to add a certain amount for toll maintenance and a certain amount for toll reconstruction."

"A. It is that.

"Q. And for supervision, and a certain amount for traffic operators, and a certain amount for incidentals miscellaneous, and a certain amount for supervision, and in addition to that an additional amount would have to be added for general commercial expense in addition to the items we already have."

"A. Do you want Houston to carry the entire load of the Company? You pretty near suggest it, if you carry out your plan."
"Q. In addition to that, Mr. Kelsey, you have taken our figures for the uncollectibles."

"A. That is \$15,084.1"

"Q. And you have taken into account—and have not taken into account \$70,000.00 of uncollectibles. You have eliminated entirely the income tax of twenty-five or thirty-five thousand dollars, and have taken only the taxes paid in the City of Houston,

amounting to \$99,965.00. If you want to allocate any portion of the toll lines to the City of Houston, the taxes on that property ought to be added on your figures that you have. Is that

true?"

"A. No, sir; if that was true you would find that Houston was carrying about one-half of the Southwestern total in the State."

"Q. Then, you have reserved for depreciation \$146,120.00, which is set up in your original report as being proper for the local exchange in the City of Houston, and you have not added anything on account of the fact that you allocate 9% of the long distance lines-

"A. (Interrupting.) It is all in there. It is quite a coincidence that you have 19% of the depreciable charge to Houston when you are only one-sixth of the total company. It is a curious proposition that Houston gets it every time."

Mr. Howard: What percentage of the maintenance is allocated

to Houston?

"A. About 19%."

Mr. Howard: What part of the property is located here?

"A. 161/2%.

"Q. In addition to that, Mr. Kelsey, your reproduction value, 1914, company figures, you use \$2,672,211.00, as compared with the Company figures of \$3,372,667.00. That is true?" 2153 "A. No, sir.

"Q. It is also true that you left out the \$700,000.00 intangibles? "A. No, sir."

"Q. Which ought to be added in?"
"A. That has not been demonstrated."

"Q. If it has been left out, it ought to be added in?"

"A. No, sir; the Court ought to investigate very closely that expense since 1914."

"Q. In addition to that, Mr. Kelsey, assuming the very lowest percentage of the toll plan, even on your own theory-

"A. (Interrupting.) I did not. I followed the one and only way of measuring that. When you deal in corn, you deal with bushels, and when you deal in cotton, you deal with bales."
"Q. I told you before you got off the stand the other time, that

is what you would do?"

"A. I would take the word of any opposing lawyer in a law suit." "Q. I predicted that you would use the lowest percentage."

"A. You are a good prophet."
"Q. You just answered Mr. Howard that what per cent of the maintenance was charged to Houston."

"A. Maintenance and depreciation,-you can't separate them;

19%."

"Q. The total company maintenance, according to your 2154 own figures, is \$1,112,441.00?"

"A. And the depreciation is \$1,446,406.00."

"Q. We are talking about maintenance."
"A. They are brothers and sisters,—you can't separate them." "Q. If you had a big storm one year, your maintenance would be

greater?

"A. Yes, sir, certainly it would."
"Q. What would happen to your percentage down here of seven and seven-tenths per cent, if the \$130,000.00 be taken out of the \$880,000.00?"

"A. What?"

"Q. If the \$130,000.00-

"A. What right have you got to take it out?"
"Q. What would happen to it,—increase or decrease?" "A. Probably decrease, but you got that money."

"Q. What would happen if the whole 100% of the tolls was not allocated to the City of Houston, would your total percentage be increased or decreased?"

"A. I can't change the law of mathematics, Mr. Frank."

"Q. Answer my question."

"A. That is certainly answering the question."
"Q. Would it increase or decrease?"
"A. That is a self-answering question."

"Q. Answer the question."

"A. I said I couldn't change the law of mathematics." 2155 "Q. Do you mean that would decrease it?"

"A. No, sir; I leave that to your own clever interpretation."

"Q. Answer the question.

"A. I answered the question by saying that I couldn't change the w of mathematics. Three and two is always five, and two from law of mathematics. five is always three."

"Q. To allow the 41/2% would also decrease it?"

"A. Not in this case, because I am dealing with the owners' profit. The owner in this case claims confiscation. The owner put this in his pocket."

"Q. To add anything to maintenance would increase it?"

"A. It would."

"Q. To add for taxes?"
"A. That is mathematically sound."

"Q. And to add anything for uncollectibles would decrease it?" "A. But still you would come in here claiming confiscation-

"Q. (Interrupting:) To add anything here to the company's figure for reproduction value in 1914 would decrease it?"

"A. If you keep on you will have the entire load on Houston's shoulders."

"Q. That would decrease it?"
"A. I can't change the law of mathematics."

"Q. If the \$700,000.00 on account of intangibles,-if that was added in, that would decrease it?" 2156

"A. Yes, sir."
"Q. If you allocate the toll investment in the State of Texas on any other basis than on the one you used-

"A. There would not be any logical way of allocating that."

Redirect examination.

Questions by Mr. W. J. Howard:

If they did not earn any money at all, that apparently would decrease their returns. I repeat, I can not change any law of

"Q. All these statements that Mr. Frank,—the testimony which Mr. Frank has just given, you don't concur in them?
"A. Certainly I do not."

"Q. And the questions he asked were merely Mr. Frank's construction of these figures, and you don't concur in his statement?" "A. Further, he is treading on dangerous ground if he carries it

to a conclusion."

"Q. You don't concur in his testimony?"

"A. I certainly do not."

"Q. Mr. Kelsey, just one other thing I am concerned with here,— a thing that Mr. Frank has overlooked. He has overlooked developing the manufacturing cost of the telephone manufacturing

companies, such as Kellogg and the Western Electric Company, and the others. I wish you would state, Mr. Kelsey, if you know from actual experience whether the profit upon those manufactured articles by all of these companies is small or

"A. Large, enormous, and always have been. There is no more profitable business on earth than the telephone manufacturing."

"Q. The Western Electric Company is furnishing this equipment to this local exchange, as I understand you; is furnishing them at

"A. Yes, sir."

Taking the manufactured cost of this telephone equipment they have here and adding to it a legitimate profit of ten or fifteen or twenty per cent, taking the manufacturing cost as a basis, it would approximate fifty per cent of the amount that is charged to this local company, because you have eliminated all expenses of sale. is no sale expense. The sale expense is usually 100% alone, and that is entirely missing in this transaction. These companies order this apparatus a year in advance and there are no salesmen on the pay roll. That is an expense that all independent companies have, a tremendously expensive sales department. It would approximate

fifty per cent, including the salesmen's cost, but eliminating that, it would not, and there is no salesman's cost.

Recross-examination.

Questions by Mr. D. A. Frank:

I have not examined a single book of the telephone company to see what prices are being paid. I have not examined a single work order in the City of Houston to see what has been paid; I am not interested in that at all.

I do not know that the Southwestern and all the associated companies buy their equipment from the Western Electric Company at a very much lower price than the independent companies have been able to buy them; it does not appear in any transaction I have ever seen.

"Q. The testimony in this case shows that one engineer who was entirely independent of the Bell Company-"

"A. (Interrupting.) Who in the world is that?"

"Q. Mr. Topping.

"A. Yes, sir, entirely independent,-brought up by hand by your people. That is a good example. Poor Topping was raised by you fellows all through the age of impression."

"Q. Is it a crime to have worked for the Bell Company?"

"A. You never can change a man's view point after you get him." "Q. Have you changed many of your view points?"

"A. I left them when I was still young." "Q. Take Mr. Hoag's appraisal and show us how much could be saved on the various items.

"A. The thing to do is to put that up into honest, competitive conditions."

"Q. Show us how much can be saved."

"A. I will not attempt to do that." "Q. You will not attempt it?"

"A. It is according to how anxious the Kellogg and other com-"Q. You will not undertake to show us what money could be saved?" panies would be for the business."

"A. Not at this time, but if you will give me a bona fide order, I would fix it for you.

Managed a state Distance

(28,081)

(28,082)

SUPREME COURT OF THE UNITED STATES. OCTOBER TERM, 1921.

No. 219.

THE CITY OF HOUSTON, APPELLANT,

vs.

SOUTHWESTERN BELL TELEPHONE COMPANY.

No. 220.

SOUTHWESTERN BELL TELEPHONE COMPANY, APPELLANT,

28.

THE CITY OF HOUSTON ET AL.

VOLUME III.

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

INDEX.

	Original.	Print.
Testimony of George L. Wilson	1199	617
F. M. Law	1206	620
J. W. Hoopes	1229	631
B. P. Timpson	1245	638
C. A. Gates (recalled)	1265	646
Edward V. Cox	1297	660
F. M. Hoag (recalled)	1407	709
C. A. Gates (recalled)	1411	711
J. C. Kelsey (recalled)	1438	725
Plaintiff's Exhibit 45—Estimate as to rates, &c	. 1444	729

INDEX.

	Original.	Print.
Plaintiff's Exhibit 46-Summary of property and net		
loss	1448	780
Testimony of A. E. Scott (recalled)	1454	733
Plaintiff's Exhibit 43-Statement of revenues, 1919	1474	743
Testimony of Lamar Lyndon (recalled)	1480	753
C. A. Gates (recalled)	1508	767
A. E. Scott (recalled)	1511	768
Præcipe for record (No. 1)	1512	760
1920	1517	771
Motion of Southwestern Bell Telephone Company for per- mission to file original complaint in nature of a supple-	1500	
mental complaint, filed July 20, 1920	1523	774
phone Company, filed July 20, 1920	1529	777
1920	1531	778
præcipe, filed November 29, 1920 Order of court enlarging time for complainant to file	1536	780
præcipe, filed November 29, 1920	1538	781
1920 Complainant's petition for appeal and order thereon, filed	1548	782 786
Appeal bond of Southwestern Bell Telephone Company, filed December 28, 1920.	1550	787
Citation on appeal and waiver of service thereon, filed January 4, 1921.	1553	789
Agreement as to extension of time for filing of præcipe by appellee, filed January 13, 1921	1555	790
Petition of complainant for further extension of time for	1556	790
præcipe, filed January 15, 1921	1000	100
January 18, 1921	1558	791
cause in the United States Supreme Court, filed January 18, 1921	1560	792
Order of the United States district court granting ex- tension of time to Southwestern Bell Telephone Company for preparation of transcript of record on appeal and docketing cause in the Supreme Court of the United		
States, filed January 18, 1921	1563	796

0	riginal.	Print.
Joint application of plaintiff and defendants for order authorizing original exhibits to be forwarded to the		
clerk of the United States Supreme Court, filed January		
17, 1921	1565	794
Order of court granting joint application of plaintiff and		
defendants for order authorizing original exhibits to		
be forwarded to the clerk of the United States Su-		
preme Court, filed January 20, 1921	1568	795
Agreement of counsel, filed January 20, 1921, as to substi-		
tution, &c	1570	796
Order granting leave to incorporate portions of the testi-	1010	
mony in the record in question and answer form, filed		
January 22, 1921	1572	797
Plaintiff Southwestern Bell Telephone Company's state-	20.2	
ment of evidence in connection with the appeal of the		
defendants The City of Houston et al	1574	798
Plaintiff's Exhibit 9—Dividends paid	1575	798
11—(Not set out)	1576	799
24—Statement; annual rate of reserve	1578	800
25—Statement in re buildings	1580a	804
26—(Not set out)	1581	805
176—Realized depreciation	1582	806
35—Annual depreciation reserve 47 to 53—Statements	1584	808
	1586	810
Abstract of Plaintiff's Exhibits 61 to 121, inclusive	1593	814
Abstract of Plaintiff's Exhibits 122 to 135, inclusive	1602	823
Abstract of Plaintiff's Exhibits 136 to 140, inclusive	1607	826
Plaintiff's Exhibit 141—Agreement blank	1610	827
142—Correspondence covering contract		
relations, &c	1619	832
143—(Summary: Exhibit omitted)	1680	870
144-(Summary: Exhibit omitted)	1681	870
145—(Summary: Exhibit omitted)	1684	875
146—Extracts from licensee contract,		
&c	1687	876
147—Valuation of instrument service	1764	939
148 to 162, inclusive—(Abstracted ex-		
hibits not set out)	1765	940
163—(Not set out)	1791	955
Offers of evidence, &c	1792	955
Testimony of A. E. Scott (recalled)	1795	956
Plaintiff's Exhibit 42-Summary of revenues and ex-		
penses	1804	961
171—Comparative statement	1811	964
172—Statement	1830	973
173—Summary of physical prop-		
erty	1832	974
174-Summary of additions	1836	976
175—Comparison of payments at		
Houston, benefit fund plan	1839	978
Testimony of J. C. Kelsey (recalled)	1857	985

INDEX.

	Testimony of Lamar Lyndon (recalled)		986 991
	Lamar Lyndon (recalled)	1871	901
			007
		2160	1129
	Plaintiff's præcipe for record No. 2	2404	1241
	Plaintiff's Exhibits 13 to 23, inclusive—Abstracted but	t	
	exhibits not set out	2408	1242
	Plaintiff's Exhibits 31 and 32-Abstracted but exhibits	3	
	not set out	2420	1252
	Plaintiff's Exhibit 36-Final summary, report on ap		
	praisal of property, &c	2423	1254
	Plaintiff's Exhibits 37, 38, and 39-(Abstracted but	t	
	exhibits not set out)	2424	1254
	Plaintiff's Exhibit 60-(Abstract of exhibits)	2429	1257
	Plaintiff's Exhibit 80-Diagram	2440	1263
	Testimony of A. E. Scott (recalled)	2441	1264
	Plaintiff's Exhibit 41-Statement of working capital.	2448	1267
	Testimony of F. M. Hoag (recalled)	2460	1273
	Geo. L. Nelson	2576	1328
	R. L. Jacobe	2588	1334
	B. W. Warren	2592	1336
	F. M. Hoag (recalled)	2599	1340
	C. A. Gates (recalled)	2934	1501
	Arthur W. Allen	2948	1508
	C. A. Gates (recalled)	2961	1514
	James E. Allison		1551
	H. P. Topping	3121	1593
	Defendant's præcipe No. 2	3239	1646
	Testimony of Lamar Lyndon (recalled)	3240	1647
	Testimony of C. A. Gates (recalled)	3274	1662
udi	ge's certificate to statement of evidence	3277	1664
ler	k's certificate	3278	1664

No. 108. Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY

versus

THE CITY OF HOUSTON et al.

TRANSCRIPT OF RECORD ON APPEAL FROM UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION.

VOLUME III.

2160 Mr. Lamar Lyndon, a witness for the defendants, was sworn, and testified as follows:

Direct examination.

Questions by Mr. Howard:

The valuations that I have made for the City prior to the one that I made for the Telephone Company in 1918, were made prior to what is known as the World War. There have been radical 2161 changes in the commercial world brought about by that war, of course, everybody knows that. Labor prices and material prices and all those things have undergone great changes, perhaps now even undergoing changes. Prior to that time there has been by the Commissions and among engineers two theories suggested, one known largely as the historical or original cost less depreciation, and the other known as the reproduction cost new less the cost of depreciation, that is building up at that time a theory a plant to take the place of the one in existence. Prior to the war there was no marked difference between these two methods. The fact that that is borne out by the value which I made here in Houston of the Electric and Power Company property. I made a valuation based on the original cost less depreciation and the company was dissatisfied with the findings, it not being enough, and it was the standard Public Utility objection to an engineer's finding, and they demanded a valuation based on reproduction and the municipality decided that in order to preserve peace and harmony that they would have a second report made on that basis, and it was made on that basis and most of the company's own figures of the then new costs were ac-

cepted and my present memory is that the variation was less than one hundred thousand dollars on a property valuation of two million dollars, that is, we were so near together that there was no question involved as to which was the better way, which was the fairer. In the valuation which I have made of this property and concerning which I propose testifying I have not given any serious consideration to the cost of reproducing this plant that was constructed, perhaps, at least 90 per cent of which was constructed prior to the abnormal changes in price level. I have not given any consideration to reproducing the property based upon these abrupt changes in prices, because a reproduction valuation is a basis that is inherently unstable,—the reproduction cost, and there is no opportunity to check the values against the value of the property; they fluctuate from month to month, or year to year. It means a specific condition for a public utility, while the conditions for certain public utilities, to my mind, and in my judgment should be stable ones. Furthermore the amount of money that is invested as I see it, is the amount to which the company is entitled to receive a return on.

The fact that the material copper and poles and wire and switchboards, and central office equipment and the buildings and the land upon which the buildings stand may have enhanced for a while, or even permanently, does not render the service any better, it does not make it any better, so far as the service being rendered, that is there is no additional advantage to the public being furnished by the utility. Therefore, the values that they get, is just on the 2163 enhancement of the quoted prices of the materials that are already in the building, or in the utility. Supposed it was conceded that they are entitled to the enhancement of these materials that is no way that I know of in which the utility could realize at this time on the enhancement. You see the property as an operating property has a value, which value is commensurate with its cost. If the property, if there is any attempt made to sell the property except as a whole operating property it, of course, becomes junk; the sale as a whole operating property, of course, is another matter, assuming there is a willing buyer, and it is then sold on the

"Q. Now, Mr. Lyndon, you have before you there the Hoag inventory. Suppose the city could have conceived the idea of getting up an inventory and applying these scaring prices, wild and erratic prices, to an inventory in trying to get at the question before the court here, and you were furnished the inventory, what would you do with it if we had called upon you with a view of getting a list of this property and apply these abnormal prices, would that inventory have satisfied you,—Would you assume practically that it was a correct inventory?"

basis of what it might be able to produce from the public.

2164 "A. Yes, I have been over many inventories of many public utilities, and I have yet to see one that is radically wrong; they are practically all reasonably correct."

"Q. So for the purpose of furnishing any such report here to the

court if it was thought at all helpful, would you consider that part of the work done, that is the inventory here?"

"A. I would be willing to accept it."

I have a summary on the top of the first page of my Exhibit No. 1.

Mr. D. A. Frank: If Your Honor please, before we go further I desire to object to Mr. Lyndon's further testifying in this case as a valuation expert as he has not been properly qualified; he has not shown by his testimony that he knows anything about telephone properties. His testimony shows positively that he has never managed a telephone property. Never operated a telephone property; and never bought or sold a telephone property, and in fact, does not know anything about telephone property, and has stated that it is only necessary for a man to have a little mathamatical knowledge

and to be able to count to make an inventory, a valuation, and for that reason we object to his testimony, testifying at 2165

all unless he is first shown to be qualified. The Master: The objection will be overruled.

Mr. D. A. Frank: Note our exception.

I have several telephone exchanges. I conducted, for the purchaser of a telephone exchange the valuation, being one of the firm of consulting engineers that have a staff of men doing the actual And when the papers came into the office, and it was deemed necessary to give them consideration it was done, and the money for the purchase was furnished by other people. All we got out of it was a very small fee. Mr. Frank is aware about of what sort of fees telephone service pays, and that's all we got out of it. Those properties were some properties in Pennsylvania and West Virginia. I think the largest property was a Pittsburgh property, Pittsburgh and Allegheny; and then one in Wheeling and one in Harrisburg. Let me see, this was in 1907, it is thirteen years ago, and the details and the names of the properties have escaped me, but in spite of Mr. Frank's view of the subject, I can only reiterate that the valuation of a public utility is not a high order of technical skill. I have had experience in valuing street railways and telephone. I have valuated isolated electric plants; I have valuated street railways; I have valuated interurban railway properties; I have valuated water pow-

ers; I have valuated city lighting plants; and valuated one 2166 bro-ze powder works once, which was 50 per cent of all bronze powder works in the United States, there being only two. There is not a bit of difference between the cement that goes into a traction company, and the cement that goes into a telephone com-The character of the installation of the wire, of course, differs in a telephone company from that of any other character of electrical distribution, but any competent electrical engineer understands these matters.

Mr. D. A. Frank: There is nothing mysterious about it?

Mr. Lyndon: Not a bit. To a scientific man it is rather an open

book. I understand that from the beginning of this hearing the gentlemen have come in here with the idea that they are teaching a kindergarden, for instance, in a wire is strung on poles, they tell you that is a wire strung from one pole to another, and that it is fastened in a certain way, that if you dig a trench, you dig it with spades. I know all of those things, but I might find out something else; I hope to always.

I have been actually engaged in some very considerable construction work, and in many parts of the world. I am not limited in my experience to the United States at all. The nearest work to you is the dam which I built across the Colorado River, here at Austin Texas. The dam never did break. The dam is there yet,

2167 and it will be there four thousand years from now, longer, if the world lasts. What did break was the company, and that caused a great deal of tribulation, but no dam has ever broken, it is there yet. I was the consulting engineer on the whole works. The transmission lines, the whole generating equipment and that I may mention is the broadest form of engineering because it comprises masonry work, hydraulic control, pipe lines, water wheels, water wheel governors and speed control, dynamos, switch-boards. transformers, transmission lines and power station design, and includes the largest number of different branches of engineering application of any other type of construction. There is no connection between the breaking of the company and my engineering work on the dam, except that certain policies were pursued which were contrary to engineering advice repeated often, and backed by the prediction that disaster must follow if these policies were pursued. It was the fact that the contractors had no foresight and made no preparation for the work; they made contracts that did not mean anything with the people who afterwards didn't fulfill the obligations and then the contractors had to start new. That delayed con-struction until they got into the flood period of the river, and when they got into that period, why, the end was practically in sight. first helf of that dam was built in a single coffer dam, which never

2168 as long to build and fourteen coffer dams washed out on them in that period. That was the cause of it. I was not the business manager for the construction company in any way. They did not meet our requirements and our requests and our protests.

washed out; the last half of that dam took around five times

"Q. But, now, taking the item of interest during construction there, that'- got to be accounted for some way, hasn't it?"

"A. It is very definite; it is as definite as the cost of the apparatus or the construction, which must be accounted for."

I did not allow anything for taxes during construction, where a plant is built "piece meal" that way, especially under the laws of Texas, where property not on hand on the first of January is not

taxed, I would hardly look to find any costs of taxes during construction. If I were operating a public utility I would not expect to pay any. I have not prepared a separate exhibit upon omissions and contingencies because there isn't any such thing.

I valuated this property by another method than the reproduction of 1914 plus the additions from 1914 to 1920. I took the 2169 actual book cost of the property showing what it cost the company to purchase this plant here. The books being accepted throughout and in every detail except two instances which have been mentioned, one being the aerial wire figures and the other the Houston Home Telephone Company property.

Adopting that method of handling the revenues and expenditures incurred here in order to finally arrive at a conclusion of the ultimate return on the property, unquestionably it will be necessary to allocate to the Houston Exchange a certain part of the long distance investment. I have not done that because it would be impossible to even approximate it. It would require a complete survey or a complete statement from the company. At any rate when I made this set-up the information was not available. In the choatic condition of the records in trying to make an apportionment in handling these revenues and expenses I would have to look over the situation and from the percentage that the property here bore to the entire property, or from the returns out of the property here in the toll service, I had to make some allocations based on the capital account and allow interest on it. Now, let's take this next statement here. Statement of Revenues,—toll revenue. I mean by this, "other expenses, general" and "other expenses not incurred

in Houston," I mean by that allocated charges based on the 2170 general officers, or incurred by the general officers and then divided into some arbitrary proportion among the various officers of the Southwestern Company. The operating expenses here in the city and the maintenance expenses and all the other local expenses, including both the cost and maintenance and operating these local and these toll systems, are included in the company's annual statement of costs for Houston. This 25 per cent is simply an experimental figure to show what the result would be if 25 per cent were It is the per cent that the company used, but I have taken other per cents to show what the condition would be. I do not know whether or not that 25 per cent would pay for the expense incurred in handling the long distance tolls by the local exchange. A series of approximations based on probable rational assumption could be made and a general idea obtained, which would simply be a general idea; it would not be an accurate statement of the costs incurred here because of the toll business, that is, we would know whether it was around 30 per cent, or around 50 per cent, but we wouldn't know whether it was 29½ or 32½ or 47½ per cent. We would determine in a general way approximately what it might be. On the basis of 25 per cent, I am assured by the few computations that I have made, based on certain assumptions that the local company would be bet-

ter off without any 25 per cent of the toll receipts if it could 2171 divorce itself absolutely from every cost and charge incurred because of the existence of the toll line. That is to say, interest maintenance, depreciation value and allocated charges and all the rest of them at 35 per cent, I am not sure. I think 35 per cent of the total toll receipts of this local exchange, I believe, would make a little profit, but at 25 per cent, there is no doubt in my mind, but what some loss is incurred by assuming all the cost and burden of the tolls with only a 25 per cent return.

The Master: If this was an independent company operating this local exchange here in the city of Houston, would it be to their

advantage not to connect with the toll lines on that basis.

Mr. Lyndon: On that basis if they had to put an investment into toll apparatus, provide a building, and add the depreciation charges and operation that is true. I mean that on the basis of net returns, the long distance convenience to the public, I think the local exchange would far better financially if — was conducted as a separate enterprise,—on the basis of 25 per cent only. If that percentage is carried to 30 per cent, I believe, that it would be about even; If carried to 35 per cent I believe it would show a profit for the local exchange.

It has been brought out here that I have never operated a telephone company. Mr. Frank has referred to it at least once.

"Q. Mr. Lyndon, that being the case, could you from your knowledge and experience and familiarity with telephone companies and their operation come to any conclusion as to whether or not that was a high or low charge per station for the traffic expense incurred in operating a telephone company?"

Mr. D. A. Frank: I object to that because it shows the witness is not competent.

"A. I cannot make any statement of my own knowledge from the operation of a telephone system, and even if I had operated a telephone exchange system and ceased to operate it two years ago it would not be indicative now of what you would naturally expect in the case of traffic charges."

"Q. In other words, do I understand you to say, that the fact that the manager that is operating this plant here would come in and say it was most reasonable and the lowest charge that could possibly be brought about, you might think they were very much in error in

their judgment and might be mistaken and that it would not necessarily be an established fact and to know, and my only basis for the statement which I now make is that—that is

that the charges appear excessive is a definite knowledge of the costs which one or two other companies

Mr. D. A. Frank (interrupting): I object to any statement about what any other companies do and don't think this is relevant for two reasons. In the first place the witness shows he isn't competent to pass on traffic expenses,-doesn't know anything about it, and anything that he says about it would be purely hearsay. People who know anything about the telephone business would not get on the stand and criticize expenses in one exchange on the basis of the expenses in another exchange as so many things enter into the necessary cost of handling traffic that it is impossible for any man to get on the stand, even when he knows what has been done in another place and tell us what ought to be done. For instance, take the question of operator's salaries; suppose a man had operated an exchange the size of the plant in Houston, or in Dallas, or in St. Louis, or in Kansas City,-now, it may be that the cost of operators per day, or per week, or per month would be greater in Houston than the other place; it may be that the operators in Houston are less efficient than the operators in Dallas, or in Kansas City, or St. Louis, and it might be that the calling rate in the city of Houston, would be greater than the calling rate in any other town, and so the

witness ought not to be permitted, in all candor, to sit here 2174

and tell us what has been done in some other place, and it seems to me to be clearly prejudicial.

The Master: The objection is overruled. Mr. D. A. Frank: Note the exception.

(By Mr. Howard:)

"Q. Mr. Lyndon, first, what goes to make up the traffic expenses, I assume you know?"

The Master: You needn't further qualify him I have overruled the objection.

(By Mr. Howard:)

"Q. Do you know anything about the elements that enter into

traffic expenses?"

"A. Yes, of course, the principal,-the main, and, in fact, the governing elements are the wages paid the operators; that is so much the largest item that it almost fixes the cost of traffic. The wages paid operators of course, depend,-I mean the total sums of money paid operators depend on two things. The first is the wages paid and the next is the number of operators. Now, as to the wages paid, it is assumed that can not be escaped. We do not assume that the company is paving more for operators' wages than it is compelled to, but as to the efficiency of operation and the number of operators which may perform the service, that is a matter of

2175 managerment, and possibly a matter of exchange management.-I mean arrangement in a small degree, and be that as it may, we find by an investigation of the costs of other companies of various kinds located in various places that the traffic charges are not anything like as high as they are in Houston. Now, Mr. Frank states, and properly states, that traffic charges are, in a measure, a function of local conditions; you cannot reason that, because one company can operate on \$7.50 that another company in the same size town can also operate on \$7.50, but you can reason that if one company is operating on \$7.50 that another company of similar size that requires above \$14.00, that it is getting out of the bounds of relationship and it is only—

"Q. (Interrupting.) Now, in speaking of \$7.50, you are not assuming that as an arbitrary figure, but you know of companies in operation that their traffic expenses run around \$7.00 a station?"

"A. I know of a larger company where the cost of labor as I understood it to be in Houston—

Mr. D. A. Frank: What company is that?

"A. The Keystone."

Mr. D. A. Frank: Your Honor can you see the justness of our objection to detailing something about the Keystone when
2176 interrogations, direct and cross, have been filed in this case to the Keystone Telephone Company, and their witness has refused to answer the questions; they could have proceeded to take them, but for some reason have failed to take them, giving us the reason that Mr. Stockwell refused to answer the questions. They

reason that Mr. Stockwell refused to answer the questions. They did not proceed to make Mr. Stockwell answer the questions as they could have done, and now a man gets on the stand to tell us second-handed the one thing, that the traffic expense is lower there than here. I merely throw that out to Your Honor for your consideration.

I have never built a telephone plant at any time since I graduated from the University of Georgia up to the present time. The nearest I have come to it is placing telephone equipment on long distance transmission lines, or patrolling the line. That was not lab-ratory work. You see I rehabilitated the Junita Water Power Company in Pennsylvania. If you have been from Pittsburgh to New York in the day time you have seen the the transmission line. I designed this and we had to have a telephone system to take care of the patrolling of the lines, and I worked out an arrangement at that time. We have one line of 40 miles to Altoona; the plant is at Warrior's Ridge, and the question at that time came up as to how the patrol should cut in at nearly any point,—at points not widely separated and notify either end of the line as to what has 2177 necessary in case of failure of the transmission line. We

only had one telephone circuit, just two wires, a metallic substance, No. 12 copper, and I worked on a scheme for contact. Placed on stubbs removed from the main poles and let the patrolman carry his telephone sack with him and plug in on the stubs. All we had to do was to run a wire from each circuit down to each stub and

fix a place to plug in, and have the proper instruments at the two ends. That is the only telephone construction that I recall just now. I never built a local exchange. Forty miles of circuit would not be a very big plant, I just put the circuit up on the frame poles with the transmission conductors. Practically all there was that was a few telephones and eighty miles of wire.

As I said on direct examination it does not take an engineer to value property. I do not say that anybody that could use a pencil and count and multiply and add and divide and subtract would make an engineer, but I do say that he would be perfectly competent to make a valuation. I want to make clear this: that when I say that anyone can make a valuation, and an engineer is not required, I mean on a plant that has been built. Nobody but an engineer can make and lay out a plant and determine what it is going to cost to build it. But after it is already built anybody that can look over books and tell what brokerage costs, or anything else of that kind,

can tell what the plant has cost. In case the book happens to be destroyed, then, in that case, an inventory would be 2178 If there was an error in the books, why the error would show itself in the final conclusion, if the books were adhered to, but I would rather think there was an error in the inventory than an error in the books. I do not believe that I ever inspected the books of the light company, the gas company, the street railway company, or the telephone company, or the books of any company, personally. I have always had an accountant to do that. not do accounting work. Neither am I a lawyer, but I am an engineer. It appears to be incontroverted that the valuation work could be done by any person who has the qualifications I have detailed. If any business man had to be an expert in whatever he handled and get values on, he would never get anywhere. manager of a department store would be practically unable to get anywhere if he had to be an expert in everything he handled. have no means of knowing how many people there are in a town the size of Houston which probably has from one hundred and fifty to one hundred and sixty-five thousand people, that would meet the qualifications I have outlined for a valuation expert. How could I I don't know whether any school teacher could do it .- I don't know the qualifications of a school teacher. I will say this, Mr. Frank, that you could do it. Yes, most any school teacher can add and subtract and multiply and divide, and if the valuation of the telephone company's property is made strictly on

tion of the telephone company's property is made strictly on the books, I see no reason why he could not do it. Bank clerks and bookkeepers would be competent unquestionably, and even some lawyers would be competent. I should say that practically every engineer would be. There might be a few people in the city of Houston who would be competent to make this valuation, but I have no means of knowing. It would be logical to suppose that there are a thousand school teachers and bank clerks and lawyers in the City of Houston out of a population of one hundred and fifty

thousand, it would be logical to suppose that, yet I don't know that to be a fact. I cannot say when the City of Houston hired me and paid me \$100 a day and expenses to make a valuation here, that they were doing a very expensive job that might have been done very much cheaper. Your assumption of having been paid I think you had better omit. They paid me some that they owed me several years ago though. There is this: Engineers as I have explained before, were originall- in this field of valuation, and they have acquired a facility in making them that comes from having gone through it before, and that as far as I see is the only advantage, except that in case of disagreement between the engineer making the valuation, and the company, the engineer has sufficient reason that he can bring forward in an argument that the other man might not have, but as far as taking the books of the company and determining the value of the property, provided the ages of the

apparatus and the rate of depreciation are known, which are obtainable from records and documents by anybody. I don't see that an engineer is an absolute necessity. The same thing would apply to taking a force of men and boys and going around and getting a physical inventory of the property and familiarizing themselves with catalogs, and getting prices and applying them, that is a thing of obvious simplicity, it is just as simple as running a department store and checking such goods and getting the prices. I don't know how simple running a department store is. What I am bringing out is it may require a great deal of tedious work, it may require a great deal of effort, and it is not any high intellectual obtainment. Certainly I would feel competent to take charge of any department store and run it, and also the Rice Hotel. Any engineer ought to be able to do those things. Also if you have trained men all around you to do the work, and they stay there and they keep doing the work, probably anybody could run a railroad. I think running a street car system is a very tedious and confining job, but there is nothing mysterious about it. Running a bank has always been a mysterious thing to me, I don't know how it has been done. let out money on loans that don't seem to have any basis, and they decline loans that appear to be good. I would not say that running a bank requires a higher class of intelligence. Of course,

as far as I have been able to see, bankers work on what is known in the street as "hunchy superstitution." They are not scientific, not logical in any manner that I have been able to discover. I don't know much about running a college, but I think it would be a good easy job to run a college. As to running a plantation, that depends, if you have people to do the work, it is no trouble, but to work yoursef, that is hard luck. A big plantation down on the Mississippi River, or down on the Brazos River in Texas, say five or ten thousand acres of good rich land, or any of the things you have mentioned would require attention and supervision on the part of the owner, or whoever was in charge of it. I think it would require some experience to run it, although you will find out that a number of people have the wrong idea and their experience merely fixes their

errors. We have seen that in a number of cases. I do not see that there is anything mysterious in running a telephone plant. Anybody could take charge of a telephone plant and in one month could run it if they had all the staff and people to do the necessary things, and the work to maintain it and keep it going. Certainly I feel competent to run a telephone plant. Any engineer could run a telephone plant if he had the staff already gathered about him and he could find in a very few days what he would have to do. Now, the staff that would actually do the work must have some ex-

2182 perience. The man that directs the staff, has to have a little experience, of course, it would be helpful to him, but it is We find that men who have gone in absolutely not necessarily so. new on work have sometimes surpassed those who have been in it for years, and gotten into some definite rut. Most of the businesses or professions that I have mentioned are truly simple. I don't think that I quite make myself clear there, Mr. Frank. The idea is that a born numb-skull, who could not work, could not do any of those things. It takes some intelligence. It takes some intelligence and some higher education in fundamentals and a general character and a willingness to work continuously. With that, there is not one of the things that you have mentioned that a man could not make a success of and I am simply differentiating all that from really different intellectual processes of the originator of new things, and the changing of existing arts, not the maintenance of the art as it stands, but the moving of the art forward. It takes a little judgment in order to value a piece of property, it takes a little judgment to do anything. In order to determine what a piece of property is worth, on some basis of reproduction, he would have to use possibly a little judgment. If you take the book cost of the plant, which I, of course, regard as the value of it, I can't see where the exercise of judgment would be required. It may be, but I don't see it now.

My understanding of the meaning of the word "Value" 2183 is as far as I can see it,—the word value is incapable of any one definite experience. For instance, the value of a piece of real estate, or the value of a suit of clothes would be fixed on two entirely different bases. If I was talking to a child six years old and trying to tell him what value is I would say it is the thing you have to pay for it, the amount you pay for it. I think I can clarify that. If you tell a child six years - what the value is, you would say the value of this is a dollar, because I had to pay a dollar for it, and that was the best price I could get for it. But if it was bought a year ago, say, "the value of this was about, but now it is not so valuable because it is practically worn out." If you would tell a child that the value is what it is worth, then where would the child be? The child would be just where it started, I don't know whether a child learns worth b-fore it learns value, I am hardly an expert, but I do not believe so.

"Q. Doesn't the boys say this ball is worth a nickel and this marble is worth a nickel, doesn't he learn that early in his life, hear his father say that cotton is worth 40 cents a pound and chickens

are worth fifty cents a piece?"

Mr. Howard: Is that among your employments in any of these years, kindergarden work?

2184 Mr. Lyndon: Not professionally.

Mr. D. A. Frank: Don't think that would be a simple way

of telling the child?

Mr. Lyndon: I don't know. Even then it would be a matter of my own personal knowledge. It is quite possible that the child learns the word "worth" before it learns the word "value." It seems logical as to what you have said there that that would be the case.

That is the way most of men's minds determine the word "value." When you speak about "value" ordinarily, you think of what anything is worth. That seems logical and it sounds true. With reference to whether a man would be able to tell unless he had some judgment, what a thing is worth, even when he knew what the book said, well, he would naturally assume that what the books said were true and that is what it was worth, less, of course, whatever period of use it has passed through.

Suppose a man has a building here and he has some books that showed the building was worth one hundred thousand dollars, that is, showed that the building cost one hundred thousand dollars, and built on a lot worth \$25,000.00 and I looked at his books and from the books I would think that the building and lot was worth \$125,000.00, and say it was constructed a very short while ago, but last

night there has been a fire which burned this building down,
I would say that the worth of the building was its original
cost, less its reduction in value, which it had sustained. If

the reduction in value was 100 per cent, then the building would be zero. I should say that the books would tell exactly what its worthwould be, with whatever reduction in value it has sustained.

To take the cost of telephone company equipment as shown by the company's books, requires no telephone experience whatever to make a valuation; even a reproduction valuation after the work has been constructed, requires only a small amount of knowledge in order to cover the construction costs. They would have to be really assumed and the construction costs are usually known from the books previously kept and by the application of a percentage showing the rise in price of labor from the date that the labor was actually done to the date the reproduction value was made; it can be very closely approximated, and on the production value it is nothing but an approximation after all, it is not difficult. Whether you would have to know something about it in order to pass judgment on a piece of telephone property depends upon what factor the judgment is to be exercised concerning. To exercise judgment as to the character of the work, or the degree of the excellence with which it is done, naturally requires some knowledge of the business, but we are going

on the assumption that the money was honestly spent and 2186 the company is entitled to a return on it regardless of the character of the equipment within reasonable limitations, but as long as it is an operating telephone company, and as long as we assume that the money is honestly and reasonably spent there is no place where I can see that the exercise of experience and knowledge in the telephone business would make a difference in the valuation

which might be reached.

This thing that you hand me looks like an induction coil, and these other two look like transmitter and receiver. Now, I will take off all parts that I understand the American Company does not furnish. We ought to have a mechanic on this job. To save time I will tell you what parts I am going to take off, I am going to take off the front and shell and take out simply the transmitter itself containing the diaphragm and carbon chamber, and the carbon electrodes, and I believe the back bridge is a part of the—

Mr. J. D. Frank (interrupting): Mr. Hoag will do that and save you the time. While Mr. Hoag is working on that for you, take the other. You can take that apart by hand.

This has external screws. This that I have in my hand is the magnet portion of the receiver. I understand that this portion that I hold in my hand is furnished by the American Telephone

Company. I am not sure about the end piece that the dia-2187 phragm rests on, but my impression is that this whole piece is furnished by the American Telephone & Telegraph Company. I do not know how many different pieces there are in the parts that I hold in my hand. I don't know how many different pieces there are but just to humor you let's tabulate them. There is some where between twenty and thirty parts, that is the receiver. Now, taking the transmitter, it is my understanding that the American Telephone & Telegraph Company furnishes all of that except this front plate, that is, exclusive of the shell. I take off the shell and front plate, that is my understanding. This inner piece I regard as a portion of the shell, in other words the entire electrical apparatus and the back bridge is the apparatus that I understand that the American Telephone & Telegraph Company furnishes. In order to tell how many of the different parts of that that the American Company furnishes, they would have to be counted, but there is a considerable number of parts in the carbon chamber. Counting the carbon chamber as one part I should approximate it at somewhere between 20 and 30 parts that are furnished by the American Telephone & Telegraph Company. There are more parts to that than the other, possibly. The two parts together are not supposed to have somewhere between 75 and 100 parts unless you consider each screw,-you often get 100 screws in a little box, and in that manner there may be many parts.

I did not mean to testify yesterday that these transmitters 2188 and receivers are turned out for ten cents a piece, and turned out like a box of tacks. I said that the parts were turned out rapidly, automatically, and classified under what is known in mechanical art as duplicating work. They are turned out automatically. They have to be assembled. In my set-up I have gone on the assumption that all that is furnished is the parts that I have indicated there, the transmitter, the receiver and induction coil. If I was informed that I had not pointed out all that is furnished by

the American Telephone & Telegraph Company I would not revise my figures, because my figures are based on the statement of costs by the American Telephone & Telegraph Company in its annual report. I would, as I have stated before, I have never made an estimate of the cost of manufacturing these articles; it has been my understanding that these portion- that I have indicated are furnished, and if more are furnished it simply means that I have been mistaken in my assumption as to the parts that were furnished, but not as to their cost. I mean as to the book set-up of the American Telephone & Telegraph Company as to that cost to them.

I don't know that that was a rather indefinite way to arrive at it. It is apparently borne out by the fact that we get the same prices from other manufacturers and got the costs of one telephone company for the same character of apparatus as was furnished by the American Telephone & Telegraph Company in 1918.

think at the time this 1918 report was made all these prices 2189 about checked with the 270 which I have made and is the I had not gotten any prices since. basis of computation. definite prices recently. Now, Mr. Kelsey informed - that these parts were worth about -hree dollars and a quarter now. I am just telling you where the information came from. I have no means of knowing what the induction coil is worth, and do not know what I could buy that for from the Kellogg people, I have no idea. If I had one dis-assembled and could measure the quantities of material and see exactly the total of material I could tell you about what it could be made for in the factory, for labor and material, but not what it sold for. A local telephone company is not a manufacturer, and if it were a separate company it would have to buy them in the open market. If the market today is one dollar for the induction coil, the Southwestern Telephone Company would have to pay a dollar for it,—it would if that was the least market price obtainable. And if the subscriber's set transmitter was priced by the Kellogg people at \$2.00, the Southwestern people would have to pay \$2.00 if they wanted to buy it if that was the best place for the purchase, and the lowest price which would be obtained, they would be compelled to pay that regardless of the cost, If \$2.00 was the best market price, and if it was the only source of supply, that is the Kellogg Company, the Southwestern Company would 2190

have to pay \$2.00 for it if they wanted to buy it. That is true. So that, the three of them would come to \$5.00 from the Kellogg people, if those are the Kellogg quotations.

"Q. Your idea is that in making an inventory and appraisal all that a man would need to know would be the ability to count, and then the ability of multiplying?"

"A. And the ability to obtain the proper prices from the manu-

facturer."

(By Mr. D. A. Frank:)

"Q. Now, any telephone engineer would have an idea as soon as he saw any of this as to what it is?"

"A. If he had been in construction work."

"Q. Just like you would about matters of batteries and matters of power and generators and things of that kind, you would have an idea at once as to what the market value of such instruments would be, wouldn't you?"

"A. I would have an idea of what they were at that one time, but with the changes that are going on, I would be at a loss on probably

anything now. You can't tell."

As I have stated I have never operated a telephone plant at all. In some of my reports I have criticized your traffic expense, and advised you how you could cut down your traffic expense. I said that your traffic expenses are too high, true, they are. If I could tell you what is the matter with your traffic expenses, and what I would do if I were operating the Southwestern Telegraph & Telephone Company, that would call for consulting engineering advice without a fee, Mr. Frank.

"Q. Now, you say Mr. Lyndon, that calls for consulting engineering advice without a fee. Now, you are on the stand and you set yourself up here as a critic of our traffic. Now, I would like for you

to tell us how to cut down the cost?"

"A. I would have made the suggestion at the time. I felt that the people who were best able to modify traffic costs were people that were immediately concerned. However, the fact that they do know their business, and were in charge of the company did not necessarily carry with it the assumption that they were operating at the least possible cost, and the reason why I criticized the traffic cost was due to the fact, as I stated before, that I found the traffic cost on larger systems where wages were equally as high, very much less, not 5 per cent less or 10 per cent less, but 40 per cent less. I am now talking about the Keystone Telephone Company in Philadelphia. The Keystone Telephone Company has 40,000 lines,

2192 and I understand it as against Houston's twenty-six or twenty-seven thousand. It is not a fact that the Keystone Telephone Company operates in the down-town section mainly,—it supplies Germantown. I do not know how many stations there are in Germantown. I know Germantown itself is around three hundred thousand people, it is a suburban district. It is quite possible that there are over two hundred thousand Bell telephones that supply the same territory that less than forty thousand telephones supply. In order for me to answer if it is a well known fact that whenever there is one telephone plant five times as big as the other that it always carries the load of the town and that the one with the small plant has a very small load, you would have to define "load." There are three or four understandings of the word "load." If you

mean the traffic load, it is a very logical assumption, but the small company carries a small load and the large company carries a large load. I do not know that the traffic of the Keystone Telephone Company is less than one-third of what it is in the Houston Telephone plant. I think I have some data on that that I would rather refer to before I make any definite statement, but I feel perfectly sure that that is in error, that they have three times the traffic load in Houston that they have over the Keystone lines, I think is in error.

2193 I have the record here of the book account showing what the traffic load is in Houston, the number of calls, and the total, we also have, I think the maximum traffic of the maximum hour in any one day. I cannot guess at it because I am a poor guesser. I know that it is over five and under fifty. I do not remember what the traffic is in Houston. Any telephone man would know if he looked it up and then he might forget it. The data is on record, there isn't any question about that. The number of calls per station run from 8.2 to 9.2, varying with different seasons of the year. This is the number of calls per station. It was 9 in January, it was 8.9 in February, 8.7 in March, 8.2 in April, which was the lowest period, and went along to 9.2 in November, this is 1919. I understand that load to be above the average load. It is really a very high load so far as I know, not having had experience in traffic and strictly dependent on statements in standard works on the subject. When I say standard works, I am thinking principally of Miller, McMean & Miller's book on Telephony, which is one very well written work and there are some books that are put out by the Scranton Schools. I could not say how much traffic there is there in that first book that I mentioned. I would not say that there is no traffic in there at all, but might introduce the work and discover. It is a very large book, I should judge it weighs five pounds. If there is any traffic in that I will tell you the next time I am on the stand. I have obtained some information con-

2194 cerning the telephone business from various sources, just as we obtained knowledge of the mechanical arts. There is also a section on Telephony in Perder's Hand Book that I have read; there is a section on Telephony in Foster's Hand Book. I think it is thirty or forty pages, I do not remember. Then there is a small hand book,—I can't remember the name of the man but it is a fairly good work, but it has got occasional data in that. I do not know that anybody has ever written a book on telephone service.

I think it would be a simple matter of dinision to calculate how many calls are being handled by the Houston operators per day, but I have never done it. It may be that the calculation is already made. We will have to make an assumption which seems logical that the greatest number of operators are in service at the busy hours; that seems a logical assumption. I have no hourly report here showing exactly how many are on for each hour, it is at intervals, from two to three hours. We have a number of operators

on at that hour, but does not state what the busy hour is. I think it is a fair assumption that the greatest number of operators are giving service at the period of the busy hour. It is rational.

2195 It certainly ought to be done. You don't have to have any experience in telephone traffic to reach that conclusion any way.

The proper way to get it for any period of time would be to take the calls in their period of time and the number of operators that made the calls in that period of time and divide the one by the other. It's the only logical and mathematical way to ascertain it. The call is the unit of service as I understand it.

In order to be perfectly fair to the telephone girls the way to do is to take the number of trunk calls and add them, and add them to the flat calls and divide the total by the number of operators. The process I was engaged on here was to take the number of untrunked, double the number of trunk calls, and add that double number to the untrunked calls and then the total number of operations as indicative of the number of connections. Of course, the trunking of a call does not call for twice as much labor as the straight call on the one multiple.

I understand that two hundred calls per hour is near the top limit for the girl to handle in one hour, an extra good operator. I did not know that the girls in Houston, many of them handle 250 calls per hour. I didn't know that and I don't think that that is borne out. If it is it has been a certain spurt, it is not a usual thing, because it is not borne out by the traffic data that you have. When a girl is handling 200 calls an hour during the busy hour, it is necessary that she is occupying one position,— I judge so, and if the number comes to the position that is further away she has got to pass the cord or get up and let the other take it. Now, if the other two girls, one on each side is on duty she has got to reach very much further, and she cannot possibly handle as many calls when she reaches further than she does when the cords are right before her. If the limit of her capacity is reached during the busy hour, she cannot surpass that at any other hour and any other condition, that is obvious. You know when the maximum capability of anything is reached, you cannot go beyond that, I do not know what the average number of calls are that are handled by the operators in the city of Houston, nor do I remember what Mr. Kelsey testified as to that. I do not remember what he testified the calling rate was in Cleveland, I do not remember what those figures were at all. Even if I heard them I don't remember now.

Possibly he did testify that the calling rate, not the calling 2197 rate, but the number of calls handled by the operators at Cleveland ranged from 300 to 475 and that on the basis he calculated the girls in Houston were handling about 600 calls per day. I remember that he said that the rate of calling at Cleveland was extremely low, and that it was something that should be changed or revised, and that they were doing better in Houston, but still, I do remember this figure he said a girl should manage to handle around 900 to 1,000 calls per day. It would surprise me to know that the girls in Houston on an average are handling more than 1,000 calls a day, and it would indicate a recent and extraordinary improve ment. If the figures that I have got in my hand will show that ther are handling over a thousand calls per day it would surprise me. ! have not taken any pains to try to find out from your traffic people just what the girls are handling.

There are other factors of course outside of your station that enter into whether your traffic expenses are high or low. The wages would be another factor, the pay and the number of calls that are sent in would be the predominating factor. It should come down to cost per call, not cost per station. It is true that telephone traffic is the telephone calls.

a telephone call; the average time is now of answering a telephone call; the average time was taken here in Houston at the time that report was written and given to me from data; I don't know that it was given to me personally; it was given to either Johnson or Ebersole, or someone of the men that were on the job

I was building a dam at Austin at the time, and it was necessary to have some assistance on the work and it was desirable from the point of financial savings. The matter of how long it ought to take to answer a call depends upon the operatives entirely that you have. But I see no reason if they are experienced operatives and willing to work, I see no reason why it should exceed somewhere between four and two sixths seconds. I determine that by statements that I have obtained from various sources. I don't know whether I read it in an encyclopedia, or whether some experienced traffic man informed me, or whether I was told by several traffic men what their experience has been. It was just some engineering knowledge that I had acquired in the usual fashion of getting other men's experience. I have no knowledge of what the average time of answering a call was when telephones first started, I have no idea.

"Q. The evidence in this case shows it was fifteen minutes. The evidence in the case shows that the instructions, written in 2199 structions to the user of the telephone was "if you don't get an answer in fifteen minutes, not to be impatient, we are doing the best we can". Now, we have got it down to between four and six seconds?"

"A. As to what good practice should be, not as actual results that we have experienced."

I have never heard of a plug count. I only know of a peg count. I don't know that I have ever heard of a plug count. I don't know specifically; I can grasp what it probably is, but I don't know specifically what it is, and how you employ it. Certainly a telephone expert would know what a plug count is. He would know what these little fuses are.

In 1914 in my report I adopted the reproduction theory, but in this case I abandoned the reproduction theory, and I abandon it,—I think the statement is made in the report and I will be glad to quote from it. On page 51 of the 1918 report, we are discussing under the theory of cost reproduction: "Having shown the fallacy of this theory, the question arises why did Lyndon & Elrod apparently use the cost of reproduction theory to determine the value of

the Telephone Company's property in 1914, if they now consider it an improper method." There are several reasons for

2200 this seeming change in opinion. In the first place we never did believe in any other theory than that of actual cost and so stated plainly in our report of 1914, see page 56. Prior to making a report of the telephone company's property, we had made a report on the Houston Lighting & Power Company, and in this later report adopted the actual cost method of valuation. The Light & Power Company officials made the usual and customary objections to the valuation of their equipment and requested a new valuation based on reproduction cost be made. The City of Houston, engaged us to re-appraise the plant on this basis and this we did. Our own views did not enter into this second appraisal of the the Lighting & Power Company's property. We merely performed the duty for which we were specifically engaged. When the second appraisal was complete, we found that it varied so little from the actual cost value that there was nothing to be gained by either side, adhering to either theory as cost had remained substantially constant.

It was the view of the city authorities, and their legal advisors that the Court at that time favored the reproduction value theory, and, in order to be on the safe side, they preferred valuations made and rates fixed, on the cost of reproduction basis, especially as the results were the same, no matter which method might be adopted.

Acting under these instructions and conditions, we made subsequent reports on the two telephone companies, and the

Houston Gas Company.

2201

While we apparently based the valuation of the properties on cost of reproduction, we found, in actually making the appraisal, that the installation costs were the more accurate in nearly every instance. Furthermore, it was fully understood between ourselves and the officials of the telephone company that the more satisfactory figures, both for the company and for the city, were the actual cost prices,

which we used for nearly all the items. Statements to this effect will be noted in various places in our report of 1914." (Which pur-

ports to be a reproduction cost report.)

"We started with the intention of basing the plant value on the cost of reproduction theory, because we were asked to do so by our client, the City of Houston. We did this as far as we were able to with any degree of accuracy, but, as stated, we were obliged to rely on actual cost figures for the greater part of the plant. By attempting to follow out the cost of reproduction theory, however, we did not accept this method as fundamentally correct. We know that it gave the same results as the other rational method, and thereby forms a satisfactory basis for the establishment of just and proper rates for service, which was the whole object to be achieved."

2202 "Q. Now, just now you read from page 51 of your report, this language, "In the first place, we never did believe in any other theory than that of actual cost and so stated plainly in our report of 1914 (see page 56)." Now, turning to page 56, of your 1914 report and reading that language, read what the language

savs.

"A. The first method of valuation, namely, actual cost less depreciation, is favored by engineers and public service commissions. This method, however, has not the sanction of the Courts. The decisions of the United — Supreme Court, which is the final tribunal in America, are that the value of the public utility for rate making purposes, is the reproduction cost, less accrued depreciation."

"Q. It doesn't sound exactly like the quotation?"

"A. It is a question of what I stated myself. I said the first method of valuation, namely, actual cost less depreciation, is favored by engineers and public service commissions, and we say that the Supreme Court has made decisions based on the reproduction theory."

Mr. Howard: You are in error in that.

Well, I was in error at the time, but the error came in this way. When the first report was made on the actual cost basis, it was then that Mayor Campbell and I think Mr. Hutcheson said that

2203 we would have to have a report made on the cost of reproduction basis, because the Supreme Court favored that method. I went no further. I was simply instructed to do a certain thing, and I did it. Judge Hutcheson told me that. That was when he was city attorney, and I regard him as a good lawyer. He unquestionably stands high as a lawyer in this community. As I understand, his views at the time he himself thought that actual cost was the appropriate thing, but there was no use in attempting to enforce something that would be more troublesome to enforce when the same result was achieved by an easier method. I know nothing about whether the Supreme Court has changed since 1914. I have been told by competent lawyers that the Supreme Court never did adopt a reproduction theory as a final and only factor.

In my judgment the way to arrive at the valuation is the book costs, the actual costs incurred for the property then in service of the public with such reductions that had accrued from increasing age, use and wear of the plant. I think there are a thousand different people in the city of Houston who, if they took the same view as I take, and could make the same computation and had the same data they would reach the same answer. I do not think there

2004 would be room for the exercise of an independent and intelligent judgment. If there should be it would not be in any vital matter. I don't recognize the necessity of any judgment further than to take care of such matters as I have pointed out, where I made departures from the book in the valuations that I made. That is to say, if the books show a million four hundred thousand dollars paid for a property that cost six hundred and sixty thousand, or several hundred thousand say, then the operation of judgment as to whether the seven hundred and twenty three thousand dollars was a fair addition to capital account might arrive, but it seems to me it would take a very trivial amount of judgment to settle that question.

I have made no attempt to find the reproduction cost of this property, and the figures that I have outlined have been merely the figures as I have adjusted them to show what I call the cost value,—one set of figures comes in that classification; there is another set which you might call a mixed valuation; that is the one in which the company's reproduction figures for 1914 were taken and the book costs adjusted from that date to now,—added to them. If I were to take the property now and attempt to apply unit costs as of present

2205 day prices, to the property, I understand it would be considerably more than the figures I have given. I have not attempted to do that, but feel perfectly assured that it would be con-

siderably more.

Now, if I were to make an appraisal today on the physical property based on the average of 1918-1919 prices and apply them to the same inventory that Mr. Hoag used, possibly I would come out at the same place that Mr. Hoag came out. It would be a mathematical computation if the same unit prices were used, I would have to come out at exactly the same thing. I would get the same figure Mr. Topping got if I used the unit costs that he used. I would necessarily come out at the same place.

I have Exhibit No. 1 before me. I have taken the reproduction value in 1914 of two million eighty thousand nine hundred and thirty-five dollars, and to that I have added the additions from 1914 to 1920 with such corrections as I have pointed out, other than the exact book figures. If I were to undertake to find the reproduction cost of the property today, of the physical property, I would expect the two million dollars to be raised considerably. I would not expect any great increase in the one million four hundred twenty-seven

thousand dollar item. The cost is made up of two items; one is the property in place in 1914 and the reproduction value at that time, and if those items were reproduced today they unquestionably would cost a good deal more than two million dollars. I should say conservatively that it would be not less than three million, how much more I am not sure without a computation. The other item is \$1.227,000.00 which arises from the additions made from 1914 to the present time, or to 1920. Now, if those items were reproduced, the price would be increased some, but not anything like the same proposition, because a great deal of that expense was experienced during the period of high prices. The period of high prices began about 1915, if I remember correctly. Of course a large part of this million and four hundred and twenty-seven thousand dollars is the purchase of the Houston Home Telephone property, not new additions. I covered the data as to exactly how much separately. It has been included. You will find it in a number of the tables and exhibits too. Two values for 1915, and one of those values is for the addition made by the telephone company as new, and the other value is for the property taken over by the Houston Home Telephone Company, so I have not got those separated, but I should say around five hundred thousand dollars, between five and six hundred thousand dollars, would be the amount which would leave about eight hundred twenty-seven thousand dollars, or around that roughly as the additions made, exclusive of the Houston Home Telephone Company from 1914 to 1920.

Page 2 of Exhibit No. 2 shows what life I assume the various pieces of property. That is in percentage. The reciprocal of that, of course, is the life tables, 21/2% means forty years. The Central office assume that the buildings will last forty years. equipment 121/2 years and the sub-stations the same. Toll lines the Aerial cables 33 years. The aerial terminals and miscel--aneous.-I understand that the exchange apparatus in all public utilities while theoretically should go into depreciation, is carried in the maintenance account. That is not an assumption, but the I. C. C. rules allow it. If everything that you change is chargeable to the depreciation, I am unable to understand how the high maintenance report arrives. Page 56, paragraph 21, "Repairs Defined" reads "Repairs as used in the text of the various operating expense accounts, includes ordinary and extraordinary repairs. Ordinary repairs include:

(a) Testing for, locating, and clearing crosses, breaks, grounds, and other line troubles, including routine work, intended to prevent such troubles, as for example, pulling up slack, tightening guys and reseting guy stubs, trimming trees, straightening poles and cross arms, and cleaning and adjusting apparatus;

2208 (b) Replacements of minor or short-lived parts of structure, equipment or facilities:

(c) Replacements of minor parts of wire plant or equipment-

I should define a minor part as one that failed to be a major part, by reason of its size or its value. As to drawing a line between the minor and the major I judge that would have to be a matter of figures for the particular accountants. Suppose a thing cost \$10 off-hand, I would call it a minor part.

Mr. D. A. Frank: Well, the Interstate Commerce Commission calls it major.

There is then, a statement to that effect in here too, which I can insert. "Made necessary by reason of faulty judgments, excessive strains, mechanical injuries, or other minor casualties, not provided against in the charge for depreciation of plant and equipment;

(d) Rearrangements and changes in location of plant, except subscribers' station equipment (for which a special account is pro-This includes rearrangements of circuits, reassociation of party lines, rearranging grouping of trunks and calling circuits, recross connection on distributing frames, rerunning jumper wires, underlining switch-board jacks, etc., together with materials used

for such purposes which do not add to the tangible value of

2209 such plant;

Extraordinary repairs include:

(a) Restoring to an efficient or proper condition buildings, structures, or other units of property which have deteriorated;

(b) Substituting in order to maintain normal efficiency, new parts for old parts of continuous structure, such as pole lines, cables, wires, conduits, etc., where such substitutions do not amount to a practical replacement of any considerable length of such continuous structures.

I don't know to what account you charge extraordinary repairs, I was just reading what the Interstate Commerce Commission says.

I did not take any percentage on any life table for aerial terminals because it is charged up to maintenance. To substantiate that I will just start and say on page 66 there is a broad heading which says "Instructions Pertaining to Operating Expense Accounts." Then page 21 is "Repairs defined," which I have already pointed out, and it says that this includes ordinary and extraordinary expenses.

"Q. Well, depreciation is an expense isn't it?"
"A. And the pole lines, cable wires, conduits, etc."

"Q. You think it is included in "and so forth"?"

"A. That is specifically mentioned, small parts of cable terminals or any other small parts, it simply says minor parts, any minor parts. 2210

"Q. Is an aerial terminal a minor part?"

"A. An aerial terminal all by itself may not be a minor part but some of its parts are minor parts."

"Q. But the aerial terminal is what we are talking about."

"A. The whole thing."

"Q. Yes, now where have you found in there, that it is charged to

maintenance?"

"A. Well, there is no specific mention of that nor anything except a few general statements. I simply wanted to point out that minor repairs—"

"Q. Now, get down and tell us what a minor part is?"

"A. A minor part is a part which related to the whole represents a very small investment, is what I would say as an immediate definition."

"Q. Where would the line be drawn."

"A. I doubt if it is drawn at the same point in different companies, it may be drawn at totally different points. There may be some lee-way of judgment allowed in there."

"Q. Is a \$2.50 shovel a minor part?"

"A. I should say that a \$2.50 shovel is a part of tools. If you lost one, it would be a minor part, it would come under the head of majors."

"Q. You think and believe anything in here that you say would cost \$2.50, in your 1914 report, is that a minor part or a major part?"

"A. That is a part that comes under the head of maintenance. If you repair two, three or four of them, if you repair one hundred of them, it would come under depreciation."

"Q. How many poles would you have to put in to be a minor

part?"

"A. I don't know."

"Q. Would four poles be a minor part?"

"A. Four poles would come in at once as a repair, it would probably be, and written in the maintenance account. It depends on the accountant, the way his principle felt about it. I have not defined it to you and you have not given me a basis to reach a definition."

"Q. Well, how long? You are on the stand, I am not, I am a lawyer. You are on the stand, you are an engineer and you ought to be able to tell us what a minor part is and what a major part is?"

Mr. Howard: It is not a matter of valuation; it is a matter of segregating and classifying accounts.

"A. I have stated and state again that it is not definitely fixed. There is an element of allowance for the possible specific conditions under which any utility may operate and for the exercise for some latitude and judgment by the accountant."

2212 "Q. But, Mr. Lyndon, if we have the charging to our reserve for replacement every time we send out and put in one pole, you think we have been sleeping on our rights then, we could charge that to maintenance."

"A. I not only think you slept, but I am certainly under the impression that you have been doing it."

"Q. Well, we have not."

Mr. Howard: If Your Honor please, Mr. Frank, made a statement a while ago that the \$10.00 is not a minor part. I don't accept Mr. Frank's statement and I ask that that be stricken from the record.

"Q. Would you be surprised Mr. Lyndon, to know that the Interstate Commerce Commission has distinctly ruled that one telephone pole would have to be charged to depreciation and not to maintenance."

"A. I would be surprised to know that and I would furthermore wonder why it had made such a ruling in regard to telephone companies and apparently had not with regard to traction companies.

"Q. So that you put down nothing for an annual rate for reserve for replacements of terminals in miscel-aneous on the theory that that goes into maintenance expense, is that true?"

"A. That a portion of it would and other portion would be 2213

comfortably covered by the three per cent.

"Q. Pure iron wire, what is the life of pure iron wire?"

"A. The life of pure iron wire is very short. I think possiblywell, you are now speaking of aerial wire?"

"Q. Yes, aerial wire?"

"A. Now I ought to have that report here to show you."

"Q. What report is that Mr. Lyndon?"

"A. That 1918 report, that six per cent was reached, we recognize that aerial wires have a short life.'

"Q. Here it is?"

"A. About 30 per cent of this wire is drop wire, of which the cost of replacement or changes is divided into approximately 80 per cent labor and 20 per cent material. The 80 per cent labor is charged to maintenance, and the 20 per cent material cost is charged to depreciation, which latter charge is therefore 20 per cent and 121/2 per cent which is 21/2 per cent of the cost of new drop wires. However we are allowing depreciation of three per cent on the cost of new value, we are taking a depreciation of 50 per cent per annum other than drop wires. This just doubled the value used in 1914. net life of the wire, is, therefore, taken as 16.06 years, that is to say, we have separated the drop wires, the short lived but frequently re-

moved and changed drop wires from the actual pole con-

2214 ductor."

"Q. So that if you did take the pure iron wire by itself, you would assume a very much longer life for it, than you do when you include the drop wires?"

"A. The pure iron wire used as conductors and put in with the rest of the aerial wires was given a sixteen and two-thirds year life."

"Q. But the other is-

"A. (Interrupting.) The drop wires are given practically 20 per cent depreciation or a five year life, but the depreciation on the total cost of the drop wires includes depreciation on the material plus the depreciation on the labor, and therefore, if the figure is to be applied to both of those things it must be less than the actual depreciation on the material taken alone. That is clear, is it not?"

"Q. Yes, that is clear."

"A. Now, we have been informed that 80 per cent of the cost of the drop wires in place is labor, 20 per cent material, and in that—we have taken three per cent on one hundred per cent, which is fifteen per cent on twenty per cent—no, I was wrong about a five year life. It is a six and two thirds year life that we allow for drop wires."

"Q. If you leave that out of your wire calculation, you would have to raise the life of the pure iron wire, wouldn't you? After you make a calculation of pure iron wire, say at twenty years and the drop wire at six and two thirds years, you get

something around fifteen or sixteen years, wouldn't you?"

"A. No, the drop wires are taken specifically at six and two thirds years. All the rest of the wire is taken specifically at sixteen and two thirds years. Now, some of that wire is copper and a little of it is iron. That is by, "little" I mean the money value."

"Q. Yes, pure iron wire then, lasts sixteen years?"

"A. I doubt it. I have seriously doubted it. I think it makes no difference whether it lasts sixteen years or not. I think it would be replaced before sixteen years was passed"

"Q. Well, if you are going to fix a reserve for replacements you would have to have a percentage big enough to make a replacement,

wouldn't you?"

"A. You certainly would. You see we are dealing with two and a half or three million dollars' worth of property, exclusive of all overheads and all worth of materials and labor—

"Q. (Interrupting.) We are dealing right now, with just one

part of it, that is iron wire."

"A. Yes, and to seg-grate out everything, every \$100.00 worth would be to make a volume bigger than Webster's dictionary.

"Q. Well, we haven't any such volume here and we have segre-

gated every item?"

"A. Well, we have had to take some combinations and approximations. Now, if the value of the iron wire is as much as \$15,000.00 or \$16,000.00 and we have given it a sixteen and two-third-year life instead of say, an eight or six per cent, it ought to have been twelve, why you are out \$7.20 a year?"

"Q. Well, we are not counting what we are out. We are trying

to get your life tables' life?"

"A. The life tables taken on an average, we simply take the aerial wires as a bare example. We admit the short life of drop wires and have taken care of this in this method pointed out."

"Q. Well, you must have assumed that pure iron wire, if you combine it with drop wire, you must have assumed that the pure

iron wire will live longer than sixteen years; otherwise, you would not have made a combination of six and two-thirds per cent?"

"A. It has been combined with drop wire. If you will look over

it you will see."

"Q. Will you give them to me separately and-

2217

"A. Yes."
"Q. What is the life of pure iron wire?"
"A. I haven't given any life of pure iron wire. We have not assumed that your aerials are all pure iron wire. I assumed that some of them are copper."

"Q. Did you find a single mile of aerial copper wire in this

plant?"

"A. I have not made any inspection. In 1914 we took your inventory. In 1918 we made an inventory too and checked with yours. If you have your inventory there, I can tell you in a minute whether it shows any copper wire or not. I have certainly been under the impression to this very minute that there was copper wire in those aerials."

"Q. Mr. Hoag tells me, if Mr. Howard does not object that there might be a mile or two miles of copper wire in the entire plant, that the rest of it is all iron wire or copper wire, which is a twisted pair.'

"A. Copper clad?"

"Q. Yes."
"A. And did he tell you what proportion was copper clad?"

Mr. D. A. Frank: How much of it was copper clad? Mr. Hoag: 80 per cent of the total.

"Q. 80 per cent of the total was copper clad."

Mr. Howard: What do you mean by copper clad? 2218

Mr. Hoag. A copper clad wire is a wire having a steel core enclosed with copper. The steel core is to get the tensile strength, the copper is to get the conductivity. The copper wire, while of a small guage would not have the tensile strength. You have to use a fairly large copper, then it is twisted in pairs.

"Q. Now, Mr. Lyndon, you heard Mr. Hoag's statement there that eighty per cent of the aerial wire is insulated wire, copper clad, what life do you assign to that?"

"A. I see no reason to change the life, sixteen and two thirds."

"Q. Sixteen and two thirds years?"

"A. Yes."
"Q. Would you be surprised to know that in this climate it wears out practically on the average of every five years and has to be replaced?"

"A. What wears out, the wire doesn't I know."
"Q. The insulation of these wires wears out?"
"A. The insulation might."

"Q. How long can you talk over a copper clad wire that the insulation is off, and twisted together?"

"A. Twisted pair, there the insulation begins to go at all, it ends the usefulness of the wire until reinsulated."

"Q. We haven't any way of insulating wire around Houston, have we?"

2219 "A. Not that I know of."

"Q. The only way we could do, is to pull it down and junk it and put some more up there?"

"A. That would be the proper method of course."

"Q. You recognize that the rainfall in Houston is heavy and that has some effect on insulation?"

"A. Yes; there are climatic conditions here that might affect it."
"Q. If the experience of the company is that these wires have to be

changed on an average of every five years-

"A. (Interrupting.) If the experience of the company is and uniformly has been, that an average of every five years these wires have to be changed, then that would change the depreciation rate unquestionably."

I assume an indefinite life for underground conduits. I have gone on record about that underground conduit matter. I assume that it is indefinite, but in deference to the suggestion of the I. C. C. I take one per cent. The I. C. C. says that you should take an amount which would approximately take care of the repair for which outsiders could not be called on. I don't know that it states it in those words, but that is the understanding that I have from the statement of depreciation I set up by the I. C. C. But I

think, myself that there is no depreciation in it at all. I do not accept changes that are caused by external conditions

not accept changes that are caused by external conditions such as the change you had on the Magnolia Avenue grade, and on the Main Street bridge here where you had to tear out large quantities of it, for which the Telephone Company would be reimbursed. I do not know who would reimburse the Telephone Company when the City requires it to move its underground conduits. If the Telephone Company had underground conduits down Main Street and the city should grow to be the size of Chicago and wanted to put in a sub-way, and required the telephone company to move, I don't know what the law is, as to whether the city would be compelled to pay the telephone company for tearing out that, but in all equity it should. I have not assumed one per cent on an assumed life of one hundred years. It is no assumption of a life of one hundred years. It is no assumption of a life of one hundred years. It is no such thing as life itself of the conduit.

With reference to subsidiary conduits, there is some of that that should be changed occasionally, but I should regard it as very small and covered by the one per cent. In fact, the records that I have from the company, indicated that all the changes that you had had and the costs you had undergone at the time of this 1918 report was made, would be covered by one per cent on the cost of the

conduit. The figure of four per cent that I had used
2221 has no relation to subsidiary conduit, not kin to it. The
two per cent that Mr. Hoag has used on underground con-

duit mains is too high,—far removed from any conditions that are conceivable, or any that I have been able to obtain data on, that have ever been experienced. If public requirement here should cause you to have to change the underground conduit that you have, you would certainly be entitled to charge that to capital account. If the Inter-State Commerce Commission will not allow you to do it on one hand, and the city of Houston won't let you abstract it from the other, I don't know exactly where you would be, kind of between the devil and the deep blue sea.

"Q. You think we ought to take a chance on that and not try to

have reserves to cover it?"

"A. I think it sort of ought to be a mutual thing. I think you ought to cover some proportions of reasonable expectation and take a chance on the rest, and not make the public absolutely cover it."

"Q. Well, did you know that we have already spent \$40,000 on

this very item in Houston?"

"A. Then it has been recent."

Mr. Howard: Now, here I object to the testimony of Mr. Frank.

2222 Mr. D. A. Frank: I am asking the question, if he knows it. Mr. Hoag testified to it already.

"A. (Continuing:) It has been recent. The Maximum at the time the 1914 report was made was \$8,000.00 and some odd dollars."

"Q. Well, the figures must have been corrected since?"

"A. Now, it is possible that that \$40,000 arose from changes in bridges or the viaduct that you have just mentioned.

"Q. Now, Mr. Lyndon, on underground cables, what life do you assume for underground cables?"

"A. Before we leave underground conduits Mr. Frank, I would

like to add a word or two about that."

"Q. All right, sir."

"A. The record which we had showns the losses due to various causes, principally repairs of the underground conduits, were around \$1,000.00. I understand that since that time another \$40,000 has been required owing to extraordinary changes that were wholly unexpected."

"Q. I don't know whether it is another \$40,000; I think it was

\$40,000 altogether."

"A. Well, 40,000 total. These conduits have a value now. That is, they cost something over \$400,000.00. That is to say, not—in the entire time the conduit system has been here, there has been a ten per cent—

"Q. (Interrupting.) The entire time since 1910?"

"A. 1910, the entire time in ten years, there has been ten per cent expended and that thirty-two thousand dollars has come from an extrordinary cause, such as it is scarcely possible could ever be repeated, the changes in this viaduct."

"Q. Couldn't you build some more viaducts around Houston, in the future?"

"A. Yes, they might. In that case, they would simply be additional, you wouldn't tear out the ones you already have."

"Q. Couldn't they change the grades in streets here, wouldn't that have some effect on underground conduits?"

"A. It is possible."

"Q. Couldn't the city make some-lay some large water mains and require us to get out of their way?"

"A. I never heard of that being done."

"Q. Couldn't they lay a large storm sewer in some place and tell us to get out of their way?"

"A. It might be a remote possibility."

"Q. Don't you know it does happen to us all of the time, it is not an unusual occur-ence for the City to put in a sewer and require us to get out of the way?"

A. And yet, in these ten years, it has amounted to \$40,000.00?" Q. Well, that takes up the entire amount for reserve for

replacement doesn't it, on that basis?" 2224

"A. Yes, there's thirty two thousand that apparently is extraordinary and is highly concentrated."

"Q. But the extraordinary part, that's one of the things that we set aside reserve replacements for, which you do not anticipate will ever happen in anything, your life tables are all formed on the theory that nothing will ever happen, isn't that true?"
"A. No."

"Q. Do you take into consideration anything in the way of changes or things that are likely to happen for extraordinary re-

"A. If, they don't happen, what becomes of the money that has been set aside for the purpose. It goes into a fund does it not?"

"Q. Well, if you were trying to set aside a reserve for replacements, why the question with you would be-what is your idea of a reserve for replacements?"

"A. Well, I haven't an idea of reserves for replacements."

"Q. You have no idea at all for reserve for replacements?"

"A. I have an idea of replacements."

"Q. You have no idea at all of reserves for replacements?"

"A. Oh yes, I think I know all it is and what it is used for and all that, but I am speaking about this specific thing. certain sum of money that should go to the company as a net amount, part of that is a return, part of that is to do this 2225

thing, to amortize the company's property within a reasonable time because whenever you install any piece of apparatus, from that day it starts in its inevitable march to the junk heap, and as it proceeds on its way, its value continually diminishes and as its value diminishes in order that the investment may maintain its initial value, there must be some money handed back to the owner."

"Q. But, in 1914, you said that the underground conduits did not depreciate at all and you would not allow any amount for that?"

A. It does not depreciate, the only thing that can happen is

extraordinary repairs and that is the basis on which the Interstate Commerce Commission, apparently suggests that a fund-not a fund, but a depreciation rate be set up against it. It is obvious that unless a conduit is abandoned or removed that it is as everlasting as the ground that it is put in."

"Q. Do you know that fifty years from now they are going to be

using conduits at all?"

"A. No, I made the statement that in seventy five or one hundred years there might not be any occasion for conduits, but by that time all present financial schemes would probably have dis-

appeared too. It has proven futile-it is perfectly futile to mark out and outline any scheme of action to take care of

one hundred years from now."

"Q. So you don't recognize the advisability or the practi-bility of setting up a reserve for replacement to take care of this property

when it is finally taken out?"

"A. It is highly desirable for the company for the setting up of a reserve for replacements. It is the duty of the public to supply the company a net amount of money, which will every year compensate the company for its change in value, for the diminished value of the plant and that they have every right to collect and that should be awarded them and that the city never has contended against."

"Q. Is it your idea that the reserve for replacement should be

just exactly proportionate to the diminishing in value?"

"A. Not necessarily. That is a matter for the company to decide what it shall do with its money, but if the public should pay any

greater amount, I don't regard it as just."

"Q. Do you recognize Mr. Lyndon, however, that we will maintain utilities, try to set aside a reserve for replacements on the theory that the public can never be harmed by setting aside this reserve, because once set aside, it can be used for no other purpose, except to rebuild the plant, but the public may be harmed by not setting it aside on

the theory that the time may come when the company is 2227 called upon to give service and the company not be able to give any service, do you recognize that principle in public

utilities?"

"A. Perfectly understandable."

"Q. Is there anything to criticize in that theory of public utilities?

"A. Not if the amount contributed by the public to the reserve fund does not exceed the amount owed by the public to it, which is the reduction in value each year."

"Q. Mr. Lyndon, how does the public owe anything?"

"A. It gets service and for that service it incurs a definite debt and

obligation.

"Q. Do you realize however, that the members of the public who get service, pay only for what they get and that they will not pay for something that they do not go?"

"A. Well, they get two things; they get service and they get the use-you may say the consumption of machinery. An electric light

plant burns up coal and it burns up machinery just as surely as it burns up fuel. The only thing is that the fuel goes faster and must be replaced frequently; the machinery goes slowly and must be replaced at long intervals?"

"Q. So that it is necessary to have reserves for replacements?"

"A. It is necessary to have, it is desirable to have reserves for replacements and it is necessary that you collect from the public an amount which reduces the change in value of the plant 2228 from year to year. Now, if the change in value each year, the amount which you collect, does not pay for your replacements-

"Q. (Interrupting.) What are you going to do Mr. Lyndon?"

"A. The difference must go into capital account."
"Q. Now, Mr. Lyndon, you are assuming that it goes into capital What is your authority for saying that anything like that goes into capital account?"

"A. Stick to the fundamentals, and I don't think we will diverge

much. Mr. Frank."

"Q. All right, I am ready to hear."

"A. A man buys a \$1000 bond and he gets five per cent interest on it for 20 years. At the end of 20 years he gets his money back, because the bond is redeemed. A man who puts a thousand dollars into a public utility has a right to expect the same identical treatment he gets his six or seven per cent, or whatever it may be, on his investment and that as the thing which he has put his money in loses its value, it is returned to him. Now, with that situation it depreciates. You see, the amount the public owes is the amount that the man invested in this machinery. Now, if he invested a thousand dollars in it, it finally passes out, he has collected a thousand dollars, but he is going to replace it and a new one costs \$2500, then he has only got all his money back, the other \$1500 must be capital account."

"Q. That isn't the same proposition Mr. Lyndon."

2229 "A. Now, the suggestion that you have a thousand dollar investment and you are going to be confronted with a \$2500.00 investment and that within the course of a certain number of years you shall set up an amount to collect from the people to take care of that \$2500 investment does not appeal to me.'

"Q. That has not even been remotely suggested by me; but what I did suggest to you, taking your own illustration, is that if you had one thousand dollars invested and say a fair return would be 8 per cent, and you did not make the fair return, for, say five years, during that 20 years, and that would be \$400.00, your proposition is that \$400 ought to be added to the \$1000 and your investment then is \$1400.00?

"A. Yes."

"Q. Now, I am asking you to do that; now I am asking you how we can do that under what law we would be permitted to add \$400 to our capital account?"

"A. It is my impression that before all cases—in all cases before Public Service Commissions, that that is done. It was originally

suggested, or originally was brought to me attention away back in the early days by the Wisconsin Commission and they had a very definite scheme of working that out and setting it up."

"Q. Don't you know that the Wisconsin Commission itself has

abandoned that scheme?"

2230 "A. I do not."

"Q. Can you name one single case in the last five years

that is set up on that scheme, one single case?"

"A. No, I cannot name a case at any time that was set up on that I have read a number of cases, but I don't remember whether it did or did not."

Mr. Howard: The Massachusetts Commission recognizes it yet.

Mr. D. A. Frank: No, the Massachusetts Commission does not; I beg your pardon, the Massachusetts Commission does not go on that theory. The Massachusetts Commission goes on the investment theory pure and simple.

"A. I certainly regard it as fair. The Wisconsin Commission may have abandoned it, but the logical thought they gave for adopt-

ing it is unescapable to my mind."

Q. The trouble is if we are under the Interstate Commerce Commission and have to obey their rules in making out our accounts and can't even set up accounts different from what their rules require, we would be in very poor position to take advantage of that, if it were approved by the Commission here or by the Court, wouldn't we ?"

"A. If that is true, you would. But I didn't know that the Interstate Commerce Commission did anything more than require a system of accounting. I didn't know they actually controlled your investment." 2231

"Q. They don't control our investment, but they do control the kind of accounts we have. Now, how would we take advantage of our books of adding your capital-adding to our capital, as you say we would, something that the Interstate Commerce Commission would not allow us."

Mr. D. A. Frank: Let me read the rule to you and you can see. Page 33, rule 10: "Costs to be actual money costs.—All charges made to fixed capital or other property accounts with respect to any property acquired on or after January 1, 1913, should be the actual money costs of the property. When the consideration actually given for anything with respect to which a charge is made to any fixed capital or other property account is anything other than money, the actual consideration should be described in the entry with sufficient fullness and particularity to identify it, and the amount charged should be the actual money value of such consideration at the time of the transaction."

"Q. Now, you recognize the fact, do you Mr. Lyndon from that

rule that we could not set up on the books any theoretical value on

account of a loss, do you?"

"A. I would not attempt to at this time construe it, but it mentions there "consideration." I would not attempt in the presence of lawyers to construe a statement of that kind, but it does not seem

to me that failure to collect a sum of money from the public which it owed you for services and for which you were insufficiently paid would be a sufficient consideration for your

receiving it at a later time under another guise and setting it up."

"Q. Mr. Lyndon, let's go on to this annual rate of reserve for replacements. You assume for underground cable, what life, main underground cable, you have it set up on page No. 2, of your Exhibit No. 2."

"A. Two per cent."

"Q. What is the life then?"

"A. That would make the life, if it were applied only to depreciables which it is, that would make the life of underground cable, lead cables, fifty years."

"Q. Well, do you suppose there are any lead cables anywhere fifty

years old?"

"Q. No, the telephone art is not fifty years old."

"Q. Well, is it likely there is any that will last fifty years?"

"A. I see no reason for its depreciation. You might get electrolysis in lead occasionally, but you see the entire thing is sealed up in a lead, just like canned vegetables. There is no way in which deterioration can take place except through injury to lead sheath. A pin hole in a lead will let the water travel a quarter of a mile in a cable but assuming that the cables are all good and that you are

not afflicted with electrolysis, I see no reason for the cable

2233 giving out on you at all, the lead sheath."

"Q. Now, suppose that we had assumed a fifty year life for a cable twenty years ago and had set our reserve aside on that basis, the fact is, that we have very little cable anywhere in our territory that is twenty years old and if we had a great deal of cable twenty years ago?"

"A. Lead sheath, underground cable, insulated cable?"

"Q. Yes."
"A. Twenty years ago?"
"Q. Yes."

"A. And it has all disappeared?"

"Q. Practically."

"A. And none in use."

"Q. Very little. Twenty years ago we had cables that had about two hundred pairs of wires in lead sheath cable, and now we have nine hundred pairs and when the plant grows to such an extent that we require the additional number of wires there, the time necessarily comes, doesn't it, that we have to take out the old cable and put in the new cable?"

A. It does; sometimes sooner than you expect."

"Q. And as we take out the old cables, they are all in short lengths aren't they?"

"A. Well, the standard man-hole length." 2234

"Q. Well, something like 250 feet?"

"A. Somewhere from 260 to 300 feet long."

"Q. As they come out, you know how they are usually treated, when they come out?"

"A. I understand that they are pulled out but used in other

conduits."

"Q. Well, do you know that, as a matter of fact, as they are pulled out they are usually chopped into two feet lengths and melted into

"A. No, I understood that they were pulled out and used other

places.'

"Q. What determined whether they were used in another place?" "A. Whether or not they are large enough or too small for the service."

"Q. Could you take out an underground conduit and use it for an aerial cable?"

"A. Of course, you could as a matter of fact."

"Q. Would it be economical to do it?"

"A. I doubt it. It would be too heavy to suspend and you would

have to make a splice at each intersection."

"Q. So that you would have to take into consideration the then certain condition of the cable as to whether or not, there were any defects in it on account of electroylsis, and also the question of cost of making the splices and the question of whether

or not it was suited for the purposes for which it was going to be "A. It would seem to be logical to pull it into other places where

the 200 pair cable is what you want and what you need."

"Q. Well, are these conduits?" "A. (Interrupting.) Well, you try and make man-hole lengths around three hundred feet apart."

"Q. As a matter of fact, no two of them are just exactly the same

length apart are they?"

A. No, I doubt it."

"Q. It would be like a woman tearing up a dress to try and make another dress with it, it would be hard to make it?"

"A. I don't understand it is impracticable, I understand that it is done, and done by the Bell Company."

"Q. Where is it done by the Bell Company?"

"A. I don't know. I told you this information is what has been given to me and that is what is done with the cable, and that is the reason for the low depreciation. If you have to pull out cable, this cable will not be worn out or obsolete, but it will become antiquated and its life may not be over ten or twelve years; it might in some instances not be over twenty years."

"Q. Would you be surprised to know that the experience of the Bell Company through the entire system is that the life of it

on the average is not over twenty years?"

"A. That is the average life of all the cable?"

"Q. Of all the cable?"

"A. It would surprise me. That is computing it from the day it is bought to the day it is sold as junk?"

"Q. That is the idea exactly."
"A. Yes, it would surprise me considerably."

"Q. Mr. Lyndon, right there, I don't know whether you realized it or not, but the probability is that you have made an error in the assumptions of your life tables and the use of life tables, the life tables that you have used here are the old Bell life tables, aren't they?"

"A. I think so."

"Q. Now, do you know how they were arrived at?"

"A. No, I don't know. As I told you, these tables have proceeded from practical telephone men and operatives and maintenance men.

I would not have attempted to fix those myself."

"Q. Now, that was exactly what I thought from your report, that had happened—that you had taken the old Bell life tables and had misunderstood the use of them, at least our ide-s, you might have had your own ide-s, but you had misunderstood our idea of the use of those tables. The manner of arriving at our depreciation rate on the underground cable, for instance, would be to subtract fir-t the

junk value, which is 40 per cent from the one hundred per cent of the entire value, leaving sixty and then that is divided

by the average number of years, which is twenty, so that we arrive at three per cent that you arrived at. Now, what you have done is to take your three per cent and assume that percentage should be applied for the depreciable property only and that, therefore, dividing one hundred by three would give you the life of the cable, or two as you use in the other tables. Now, that has resulted through your entire set-up, I am stating it to you, very frankly and sincerely as I know how. That has resulted in all of your set ups being off to the extent that you think that we have not taken into consideration the fact that the property depreciates—leaving junk and that is the main difference between your figures and the figures of our engineers in this set-up, do you see what I am talking about?"

"A. I understand perfectly, yes, and-

"Q. (Interrupting.) We have no criticism however, of your doing it because it is a misunderstanding on your part, of how they are used."

"A. That may be, and it may be perfectly applicable to strictly telephone property, such as, for instance, paper insulated cables, but in matters of such as pole lines and insulators and cross arms and

hardware and all that, they are common not only to telephone 2238 systems and—but in every other character of systems. Now,

on this, I have used the knowledge that I have. Now, on this underground cable I questioned that low depreciation rate. It looked low to me and I was informed that the reason it was low was the one that I have given you, that when inadequacy overtook a cable, as it nearly always does, until you get up to the limit of cable sizes, the cable was simply transferred to other conduits."

"Q. Well, of course, you could realize that unless you found another conduit that was just exactly the same length that if you pulled out three hundred feet in one place and wanted to use it in a two hundred feet one, you would have to cut off a hundred feet which would then have to be junked."

"A. Yes."

"Q. Or if you had a 260 foot piece which you wanted to use in a 300 foot run, you would have to make a 40 foot splice?"

"A. Yes."

"Q. And either one of them would be uneconomical?"

"A. Well, cutting it off might not be, but splicing it costs a lot of money.

"Q. Now, you have used two prices in the report which you have just read for your underground cable, whereas in your present set-up, I think in order to be fair to you, you used three 2239 per cent in your Exhibit No. 2, on page 2?"

"A. Oh, the present Exhibit?"

"Q. Yes."

"A. Yes, as I told you that two per cent always looked a little bit low and I had to have it confirmed before I would use it and in making these exhibits, I thought it looked too low any way and arbitrarily lifted it fifty per cent and made it three per cent."

"Q. You can easily see that if what I have stated to you frankly, is correct, that some of the calculations you have made on the value of this property would make some difference in the final outcome?"

"A. If the life is twenty years, and that has been your experience, shown inescapably and the indications are that both cables arealthough cables now made up as large as you can pull them into the conduit that that would be the case in the future, then five per cent is the amount to apply to the depreciable portion of property?"

"Q. And if you put it as we do on the entire amount why the three per cent should be applied to the one hundred per cent in-

stead of to the sixty per cent?"

"A. But my present view of the matter is that most of the 2240 fundamental work was begun with small sized cables because

they were big enough for the then needs and even immediate prospective needs and that cables that have been recently installed, say within the past four or five or six years have been about as large as the conduits would permit and therefore, the question of inadequacy can never arise with those cables. The inadequacy of your conduit system may and you may have to add to it at a capital account cost, but you can't pull any bigger cable in than those that you already have in, in a number of places."

"Q. You realize that instead of tearing up our conduits the General Staff of the American Company has been working for years on

the proposition of-

"A. Smaller cables having given number of pairs."

"Q. That is smaller cables having a given number of pairs or a greater number of pairs for the same size cable?"

"A. Yes."

"Q. So that, whereas a two hundred pair cable used to fill up a cable run, we lay out a four hundred and six hundred and are now using a nine hundred pair and they are even manufacturing a twelve hundred pair cable that will be used eventually; you know of that development?"

2241 "A. I know of that. I think that was brought out in the testimony."

Mr. Howard: How do you claim credit for the General Staff, in the idea or in the construction of the cable?

Mr. D. A. Frank: That has been fully covered Mr. Howard, and I don't care to go into it right no, unless you are very anxious to.

"A. In that case, if you have cables that are from, say, six hundred pair up, the prospect of inadequacy is very much less than the prospect of inadequacy was fifteen years ago on the then existing cables."

"Q. Well, suppose Houston continues to grow as rapidly as it has in the last twenty years, we would probably have to use twelve hundred pair, where we have got now four hundred pair and six hundred

pair wouldn't we?"

"A. It might be so, but it would only be very short runs from the station out. It would mean that streets that are not now covered, you will have to cover. For instance down Main Street, there are about all the telephones per unit length of street that — may reasonably expect. You can't expect them to be doubled, no matter if the city grows enormously to five times its size. It means that other territories will be covered.

2242 "Q. But down here, but between here and the Rice Hotel they have torn down an old building and are going to put up a large office building?"

"A. I understand so."

"Q. Don't that mean we will have to run more wires to take care of that?"

"A. Unquestionably."

"Q. And then, the oil company is putting up some sky scraper, that is intending to, don't we have to take out the small cables and

put in some large ones?"

"A. True, but the percentage increases will be nothing like has occur-ed. That is, the prospects of inadequacy within the space of time you mention is nothing like as great. I know, although you didn't say, that this twenty year life that you mention is not due to the cable wearing out, it is inadequacy."

"Q. It is inadequacy and in some respects obsolescence. Well, I

don't know wh-ther you would call it obsolescence or not?"

"A. It don't have enough pairs in it, that covers the whole thing. Now then if they lasted twenty years from the beginning, with the rapid growth the high percentage growth per annum, they will last much longer than that, beginning from now on, and as the city grows each year the percentage increased in any given run of underground conduits should be naturally less."

2243 "Q. But you should have additional developments for the city, where you will have virtually the same situation that has obtained heretofore, in the business part of town, isn't that true?"

"A. No, I think that you will find that there are certain streets

that you are covering with aerial in which you will put down underground cable and when you do you will put down sufficient number of ducts and draw in cables with a sufficient number of pairs to cover whatever prospects you will receive for a number of years.'

"Q. But we don't put cable in big enough in the cable duct, for instance down Louisiana Street, we would not put in cable longer than to last for about five years?"

"A. That I don't know."

"Q. Would it be economical? Suppose we knew positively that within the next ten years that Houston was going to be as big as St. Louis, and that it was going to extend South and east, that is sometime within ten years, that we are going to require as heavy cables out certain streets here as we have in the downtown section. Now, would it be economical to go and build the construction for that period, ten years in advance?"

"A. Not at this time."

"Q. The only thing you could do would be to put your permanent

construction in at this time, wouldn't it?

"A. Yes, and I don't know how much of that, this time is a period of certain high prices."

"Q. That you might better afford to wait?"

"A. Much better afford to wait, yes."

"Q. So that there is, this thing of inadequacy is something that

we are likely to have at any time in any part of our plant?"
"A. Unquestionably. I admit that, but the only question is, is the prospect of inadequacy as great as the prospect for inadequacy was fifteen years ago, when you first laid cables? I don't think so, If twenty years was the life of the cables, beginning from twenty years ago, then I should say they ought to at least last twenty-five or twenty-six years before inadequacy overtakes them as an average. Of course, there's cables you will cut down and in thirty years you will have to pull them out, as an average.

"Q. Mr. Lyndon, when we adjourned yesterday we were talking about underground cable, and as I understand from your testimony, the percentage that you used there was used,-that is, all the percentages have been applied by you under a misapprehension of the

use that is ordinarily made of these percentages?"

"A. No, I understand that these percentages are the percentages used at one time by the Bell Company, and if applied to the total cost and not to the depreciable value, but-

"Q. And you take the very same percentages that the Bell Com-

pany had used?"

"A. I did in the case of the underground cables. For other percentages, which as I explained at the time, refer to general character of electrical equipment, with which we are all familiar and on those I took percentages which I know to be correct."

Specifically, the first I call to mind is pole lines. I used 8 per cent on that. I gave the pole plant a life of twelve and one-half That average is fairly standard among engineers, and while it is too short a life as the average life, I feel it is a safe figure. I have used variously twelve and one-half years and ten years all my life. I have never had a shorter period of time than ten years, and I think I never used a longer period than twelve and a half years. Telephone companies use ten years constantly, but that does not mean that they wear out in that length of time. Figures for depreciation should be based on mere wear. I changed over from ten years to twelve and a half years because of poles that are newer that have been planted and are still in use on transmission lines that I knew of more than twelve years old still continued, and that

as far as I could find out in Houston from going over the leading properties here, that it was probable that twelve and one-half years was a fairer life than ten and other data in various The gross additions to the plant in Houston of pole lines might amount to more than what it is shown to be on the books as the cost of the poles in Houston or might not. The total amount of the gross additions would show the total amount of what was in the plant at present, if the gross additions were made within a comparatively short space of time. If the life of the poles is ten years, or longer, the gross additions should show the actual poles in place. If the gross additions do actually show for the last ten years a larger amount than the company's book account of poles, it would tend to verify the company's figures of ten years,—it might even do more than that, it might show higher assets in place than the books account for. I do not understand that you claim more property than the books account for, but a higher value on the property than it had at the time it was purchased. I have never understood that you made the claim that the books will show less than the actual cost of the property, I never understood that you made any such claims as I did not know that prior to 1912 there was several items of cost that did not go on the books. Your books which purport

2247 to give the expenditures the company incurred for plants do not actually do it. I did not hear Mr. Kelsey say that no books prior to 1912 were accurate, and I have not read his testimony on that.

I do not know that such expenses as general expenses, engineering expense, taxes, and interest during construction were left out of the books prior to 1908. Of course, that would not apply to anything that had a twelve year life, because, prior to 1908,—anything put in prior to 1908 that a twelve year life would have to be replaced now, and would be about new now.

I did not allow any junk value for poles; I do not regard them as having a junk value. I am assuming and applying my per cent to the depreciated value instead of the actual value, and that would get the same results either way from poles for the reason that there is

no junk value.

On an aerial cable I used three per cent, and also used three per cent for underground cable. The aerial cable should have somewhat more rapid obsolescence than underground cable. I do not see that it would have any deterioration other than possibly it might be torn up some by storms but in that case, it is simply replaced. If it is simply replaced, you do not have to have something to replace it

with; if the cable is blown down it is tied back up as soon as the storm is over,-lead sheath cable isn't ruined by being blown down. It might and might not be damaged by being blown down, the probabilities are it would not. The copper wires are covered with a lead sheath and is a right substantial structure. Cables up in the air are subject to accidents. It is true that a larger amount should be allowed for an aerial cable than on underground cable, and in all the reports, except this one it has been one. But in this case instead of increasing the aerial cable, I simply increased the underground; that is what makes them equal.

"Q. Mr. Gates, in testifying allowed a percentage of six per cent, and Mr. Player, who had a great deal of experience, fifteen or twenty years, with Commissions, allowed six and two-thirds per cent, and Mr. Hoag allowed five and four tenths per cent for an aerial cable?"

Mr. Howard: What did you say Mr. Player allowed?

Mr. D. A. Frank: Six and two-thirds per cent.

Mr. Howard: If you will go over that you will find you are wrong about that.

(By Mr. D. A. Frank:)

"Q. And Mr. Hoag used 5.4 per cent. Mr. Topping had eight per cent, and you used 3 per cent. Now, there are five engineers who average something like six per cent, and you have used practically half, so it would seem reasonable that you might be wrong on that, wouldn't it?"

"A. It would be possible, but the true test would be the actual experience of all telephone companies over a long period of years and that's what these figures are, -- that's what they amount to and

If the American Telephone & Telegraph Company's figures based on forty years experience are 5.4% the same as used by Mr. Hoag, it might be and might not be pretty good evidence of what would be right; it depends entirely on the basis. If the evidence shows that the average of cables as found in the whole experience of the American Telephone & Telegraph Company that 5.4% applied to the depreciable value is the true amount, why, it would be difficult to contradict it, but if the experience of the American Telephone & Telegraph Company indicates not that the life of a cable is the criterion that fixes that five and three quarters per cent, but that it is desirable to set aside that amount of money, it would be quite another thing.

"Q. But these are the figures that are entirely divorced from the figures desirable to set aside based on engineering study of the actual life and experience, that is, the actual life of the cable as shown by the experience of the American Telephone A Telegraph Company in-" "A. (Interrupting.) That is about 17 years."

It has been true up to the present time that just a small per cent of the telephone plant wears out. There is nothing that occurs to me that would actually wear out except poles and cross-arms, and you have mentioned that the insulation or twisted pair cable, that is exposed; Iron wire wears out, but I should judge that would be removed before it has a chance to simply corrode away. I did not use six per cent on iron wire; I haven't considered iron wire. I regarded the cost of iron wire as forming such a small proportion of the aerial wires that a special separation of this part of the equipment and a special rate of depreciation did not seem to me to be worth while. I did apply six per cent to an aerial wire which includes a little bare wire. On an aerial wire I took the junk value that was suggested by the Telephone Company which was 30 per cent of the original cost. There is no junk value to iron wire, but let me say again the value of the iron wire I regarded as,-first I admit that these are improper values to apply to iron wire specifically per se as including nothing else; iron wire itself is not considered with anything else, iron wire has a negative value as junk; the labor cost

more to take it down than it is worth. The figure is not 2251 minus 16 per cent; you could put up wire for less than that. On familiar ground I have strung a great many miles of wire. and it is wrong in the amount that you have specified as the negative

Anybody can take that wire down for very little money, so little that it would be practically negative. After you get it down it is worth substantially nothing; it is hardly worth hauling away. I do not know what it cost you to take down a mile of it, but I do know that if it would cost more than six or seven dollars a mile to take it down, then somebody is spending money that ought to be

I do not know what a mile of ordinary 12 guage iron wire is now worth, F. O. B. Houston. I do not know whether six dollars a mile on 14 guage sounds right; it might be around six dollars.

I do not think that two dollars is excessive to pay for taking down a mile of wire; that would be 33 and one-third per cent of the wire Taking it down might cost thirty-three and one third per cent of the cost of it and after having it down it would not be worth anything, but you are taking the wire just F. O. B., and the real value of the wire as shown on your books, and as we estimated it, is the wire strung in place.

I think that Mr. Hoag is wrong in assuming that the iron 2252 wire depreciates to minus 16 per cent. I might I might ac-

cept that if I had a rational basis for it, but it, the wire costs a certain amount of money, you say now about six dollars. I do not know what amount it is. It has got to be strung, tied in place; I do not know what it cost you, but assuming that you do that you do that for \$13.00 would be a total cost of \$18.00, and if you took it down for \$2.00, it would be one-ninth of the cost or something like 11 per cent, and if you took down a large quantity of it, there is some slight junk value, but of course, if you take small lots it has no junk value because you haven't got enough to sell and could hardly afford to bundle it up and carry it to the railway sta-

tion, but, if you have a large quantity there would be some junk. Now, let's admit that it sinks to 15 per cent, just to carry out the answer I started to make to the question; the proportion of the value of iron wire in the total, I have regarded as too small to either segregate or to let influence the figures which are used for copper wire.

The figures are wrong, every one of them, as set down by either There is nothing definite about depreciation; it is an approximation and when I used them, it is an approximation and now, to try to get exact results out of an approximately fixed basis has no logic to it. The only difference is that your figures are not based on 40 years' experience, and that mine are taken

out of thin air. Your figures are based on different experiences that cover various parts of the country and you should have a reasonable and fair average basis for the total, but your own experience has shown you that the rapid changes in the past has caused obsolescence with a rapidity, which you probably do not expect in the future, and the present figures are not totally based upon experience, but are partially predictions.

"Q. Now, the figures I have read you are the figures of the American Telephone & Telegraph Company for bare wire, and for insulated wire of 12.9 per cent as comparable with your 6 per cent, whereas, Mr. Hoag taking the experience in Houston, used 16.5 per cent for bare iron wire and 15 per cent for insulated wire."

"A. Six years' life only?"

As to whether or not I can conceive of any reason why bare iron wire and insulated wire would wear out faster in the City of Houston than it would on an average throughout the United States, as I stated before, I do not believe that iron wire gets a chance to wear out. It comes down though. In a damp climate insulation will deteriorate more rapidly than in a dry one, but that still does not point to any five or six year figure to me.

If the gross additions in the sub-station equipment account for the last five years more than equals the entire total carried on the company's books for sub-station equipment that would convince me that the books were wrong, and we wanted another basis. I do not know why the books would be wrong. If the property now in use, not only for sub-stations, but any additions that you may choose to name, exceeds the books I would conclude

that the books are in error.

"Q. Well, that's exactly what we tried to impress upon you from the start, that the books do not contain all the property, and that's necessarily true because no entries will be made except for property actually constructed-

Mr. Howard: We would rather that you prove these things, than to testify to them yourself.

I have used thirty-three and one-third years as the life of underground cable, underground cable subsidiary and blocks, and underground cable house, and underground terminals, and miscel-aneous, and I have bunched all of these and used 3 per cent for them. I judge underground terminals do not last as long as underground cable. I do not know what the life would be of underground terminals. That would be subject to change with the change 2255 in conditions. The ratio of the cost of underground terminals to the cables is so small—I think I could best

terminals to the cables is so small—I think I could best illustrate it, if a man had a thousand head of cattle and one horse, that he would take, and say the value of my life stock is \$80 a piece,—is \$80,000. Now, you have got a horse in there that is worth \$100. Now, to attempt to separate the whole thing out into individual items, each of which is somewhat different in its rate of depreciation would make a long and cumbersome document, and we would not be any closer to the fact finally than by approximating. In the matter that we are discussing, I took the ordinary Bell 2 per cent, raised it one per cent, and called it 3 per cent.

As to where I got the Bell figure of 2 per cent for underground cable, I understood that was what you said yourself yesterday.

"Q. No, you said it, I asked you if you adopted the old Bell figures on some items of the plant, but not underground cable. The figure of the Bell Company for years has been 3 per cent. Underground cable, main and underground cable subsidiary has been 4.6 per cent. Mr. Hoag's figures were underground cable main, 3 per cent; underground cable and subsidiary and block, 7 per cent; underground cable house, 6 per cent; underground terminals and

miscel-aneous 10 per cent. Of these about three fourths would 2256 carry the 3 per cent and one fourth would carry the higher per cent, which would be rather a substantial item, wouldn't

it ?"

"A. Yes, it might be. That means that there is a little more than four hundred thousand of that property and that would mean that according to the books three hundred thousand would carry 3 per cent and one hundred thousand would carry some other percentage, which would then depend on the various percentages into that one hundred thousand, which we adopt for terminals and subsidiary laterals and for the rest of it."

It would make some addition if those figures are correct, I mean,

actually based on the life which has been found to exist.

I did not use any right of way, and of course if I did not use any right of way, I could not use any rate for it. The investigation that we made showed that in right of way forty six or forty eight hundred dollars have been incurred in Houston; I mean has not been incurred in Houston, but was an allocated charge, that is, the right of way of the whole company had cost so much money. As to whether or not I know that you are paying for right of way to the city of Houston, and cannot even set a pole without paying a 50 cent charge, that refers to a new pole; you can't replace a pole without paying a charge. If you have 17,000 poles in the city of

Houston, that would mean something over \$8,000 for right of 2257 way, even for the city, that is if they were placed subsequent

to the time that they passed the ordinance. If they had that ordinance twenty years, then you had to pay it, but I understand it was put in your construction cost. With reference to people who have property where you want to set a pole on the back end of a lot, and they charge you for that, as to whether or not that is right of way depends on whether you pay that money and charge it to construction cost or not. As to whether or not all of that has to go into right of way if you make such payments I am not sure of. I thought — was all part of your construction. The Interstate Commerce Commission has not been working but a comparatively short time, and I judge there has been but few new poles planted in that time, in fact, in the past eight years the tendency has been to take out poles, rather than to put up any new ones. The town has been continuously growing but the tendency has been more to extend the underground system. I do not know that you have got more poles today than you had ten years ago, but that can easily be determined by reference to the book of statements which we have here and we can look at that and see.

I understand that the city of Houston has grown in ten years from 90,000 from what has been variously estimated from 2258 one hundred forty to one hundred seventy thousand people, and that the suburbs have grown very largely themselves, that is, people have moved further and further out, and ordinarily suburban construction is an aerial construction, so that, of course it would not be unnatural if you have more aerial construction than you had ten years ago, but that would depend on the rate at which

you had removed poles in the more congested sections.

If your gross additions the last ten years amounts to more than the entire book cost of poles as carried on your books, it would seem to indicate that you had been putting up a good many poles in the last tens years. If that is a fact when you include the Houston Home purchase. I do not know how many poles were in the Houston Home purchase, but the poles had an initial value of bout \$66,000.00. I do not know how much of that was put on the company's books. I think they put that down on the company's books at \$59,000. They were put on the company's books in accordance with the Interstate Commerce Commission's ruling, which required that they be put there at the then depreciated value of poles. The relevancy of taking out the poles of the Houston Home Telephone Company would be only this. That ordinary judgment would show that there must be duplications, but how much I cannot say without making a survey, but it is impossible for the mind of an engineer, or an ordinary business man to conceive of two companies,

one of which was a competitor of the other, that did not parallel and overlap at some points. I do not know that any of the poles have been removed at all. Taking out the automatic which was \$59,119.00 if the gross additions by this company for the last ten years, exclusive of that has amounted to more than two hundred thousand dollars out of a total of two hundred eighty eight thousand dollars, it would mean that we would have to revise the entire subject as far as I am concerned, because it would show that the

basis of which it was founded was wholly wrong,—the basis on which these reports exhibits and conclusions are founded are wholly wrong. We have taken the net additions and have gone further than that; we have changed the ages to accord with the theory that the life covered only a certain portion of the time. We have never had either the gross additions, nor the actual amounts spent for replacements. I do not know that the city had those figures from 1910 up to the present time. I have never asked the City Secretary for the reports made by the telephone company year by year, and do not know that I could have gotten them by asking for them; I thought it was best to ask the telephone company.

I did not personally ask the telephone company for gross additions. We had some accountants to attend to this work and I wrote them two or three letters. One after the other asking for

2260 this information and they replied they were not able to obtain. Now, I cannot say why, not having personally done that, why they were unable to obtain it, but one reason I wanted to obtain this information was that the actual realized depreciation through the past ten years would be an excellent criterion of the best rates of depreciation to apply.

"Q. Did you look at the files of the letters written by the General Auditor to Mesers. Ernst & Ernst with reference to this matter?"

"A. They sent me one or two letters about it, but at the time our communications was by long distance telephone or direct here in Houston."

"Q. Did you see a copy of a letter writtem February 14th 1920, to Ernst & Ernst, and signed by the General Auditor, the last paragraph of which I will read to you "Regarding the charges to depreciation reserve since 1901, we do not think it is possible to get accurate information back to 1901, however, information is on file at Houston in the reports submitted by this company to the city of Houston showing such charges back to about 1910, and Mr. Lyndon can obtain the information he desires from these reports." Did Ernst & Ernst show you a copy of that letter?"

Did Ernst & Ernst show you a copy of that letter?"

"A. What is the date of that letter?"

2261 "Q. February 14th, 1920."

"A. No, and the reason is that the information was asked for, I believe, fully a month before that, and on February the 12th, I had completed all the work here I had to do and went to New Orleans, and was not there from the 13th, and that letter evidently was not in Houston until the 15th. On the 15th I was in New

Orleans,-on the 19th I sailed for Havana."

Of course, it was not the fault of the telephone company that I was in Havana, but you see I asked for these details a month prior to that date. I asked Ernst & Ernst for it and they telephoned or telegraphed the request to Dallas. I do not know on what date they telephoned it. I can look up the Ernst & Ernst correspondence and you can take the bills from the Southwestern Company showing the date of the call and get that, but it was fully a month prior to that time as I remember it that we requested that as rapidly as it could be obtained, or as quickly as it could be obtained, I do not remember

the date we requested the information, but it was about a month prior to the time that I requested this information in a memorandum handed to the general auditor in the court room on January 12th

of this year,-just about a month prior to that letter.

2262 "Q. But, on February 5th, Ernst & Ernst notified the office here of Ernst & Ernst, that is, Ernst & Ernst from Dallas or St. Louis, to the office of Ernst & Ernst at Houston that they got this by years from 1901, and following that came the letter from the General Auditor, on February 14, giving a mass of detailed information in response to other questions asked by you, but stating that the information could not be given back to 1901, but stating that you could get it from the city of Houston. Now, did Ernst & Ernst furnish you a copy of that letter?"

"A. Not a copy of your letter of the 14th, because I had concluded the work of the preparation of these exhibits, which is really bringing the valuation of the company up to January 1, 1920, at that time or prior to February 14th. What date I asked Ernst & Ernst for the date on realized depreciation I don't now know. I have a copy of my letter to them; they put it up I know by telegraph or telephone and my request was not limited to the time from 1901 to the present day. I asked for the data as far back as it was possible to go; for one year, two years, ten years or twenty years,-the date as far back as possible to go and to get the information immediately."

"Q. So at any rate the combination of the misapplication of your depreciation rates and the theory that you set it up on, of net additions instead of gross additions would virtually make your

2263 entire Exhibit No. 2 wrong?"

"A. No, if the books of the company are wrong, then my Exhibit No. 2 is wrong. That is to say this, the figures, the accountants have given me have come from the company's books. Now, if the books are wrong, why the accountant's transcriptions are wrong, and the resulting document is consequently wrong.

"Q. Now, just to apply a test to that, Mr. Lyndon, let's turn to

page 15 of your report now of your Exhibit No. 2."

"A. Yes."

"Q. On underground cable, now you have up to 1901, \$34,273.00 worth of cable."

"A. Yes."

"Q. Which you say is twenty-five years old, and the total depreciation on it is \$15,423.00, making the present value \$18,850.00."

"A. Yes."

"Q. Now, if you had obtained these figures from the city and found that your totals of cost new, \$563,000.00 worth of underground cable, had more than been put in the gross additions since 1909, why necessarily, these figures are all wrong, aren't they?"
"A. It would indicate that these figures are wrong, yes if that is

true."

"Q. You have estimated that in 1910 the removals exceeded the additions by \$10,000, and they ought to be subtracted from 2264 the \$34,000?"

"A. That ought to be subtracted from the amount in 1901, which would leave \$34,000, and that is, the \$34,000 is not the sum for the value of the cables there in 1901."

"Q. How do you apply that in 1916 where the removals exceeded

the additions by \$1,286,00?"

"A. It is assumed that the removals applied to the oldest cable, and certainly not to cable put in — 1910, for cable put in in 1910 was not removed in 1910, and the removals applied to the oldest cables. The actual amount the books showed on hand in 1901 was \$45,716. Now, that being the oldest cable we deducted the removal of \$10,157.00 in 1910 and \$1,286.00 in 1916, which instead of giving the negative quantities, or quantities in the red in 1910 and 1916, they were applied to the 1901 value, bringing the \$45,000 value down to \$34,000; the sum total being identical with what it would have been if we had left the \$45,000 in 1910 and put in red the amounts in 1910 and 1916."

"Q. But what you deducted was the excess of removals and not

the removals?"

"A. The excess of removals?"

"Q. Yes."
"A. Yes."

"Q. So that if—let's just assume, for instance, that in 1910 there was \$50,000 worth of cable taken out and \$40,000.00 of underground cable put in."

"A. Yes."

"Q. Now you would assume that only \$10,000.00 of old cable was

taken out?"

"A. That is the only thing we could do without a knowledge of the true figures, which you now give. If that were true, the \$50,000.00 should have been deducted from the 1901 value and \$40,000.00 credit in — 1910,—that is in the 1910 value, but of course, the sum total would be the same in any case."

"Q. Would the sum total of the present value be the same?"

"A. Would the sum total of the present value be the same?" No, it would not be the same because the age,—the average age of the cable would be somewhat reduced under these conditions, if these are the conditions."

"Q. So that-

"A. (Interrupting.) By the amount of change in depreciation."
In a measure I could have gotten the gross additions for 1915,
1916 and 1917. These gross additions from the company's books.
In the gross additions are included the purchase of the Houston

Home Telephone Company a certain arbitrary valuation and they would have to be separated out, and the result might not be a definite thing that showed the expenditures. It is true that the additions would only be for one year of the Home Company; it would cover only one year. If I knew the figures the Home Company was paid there would not be any trouble to figure that out.

Referring to my exhibit No. 2, page 15, in order to get what I call the per cent value I take \$34,000 of the underground cables and

I have that as though it still were in the plant today with the present value of \$18,850. Then in 1902 I had \$8,000 of underground cable that I gave the age of seventeen and one-haif years, and have that depreciated down to \$5,670, and so on down the line, I have assumed that various items of underground cables are the years set out in my exhibit on page 15; that much expired life. I do not know that if I had taken into account the gross additions, that all of this column would be wrong. If the gross additions for the past nine years exceed \$563,000, then, you have more than \$563,000 original cost of cable there, and you have a greater value at present than \$475,000. If the gross additions in the period of nine years, exceeds the cost total shown in any one of these setups, then the value of the property actually in use exceeds the amount of the sum. That is a very obvious thing and in that case

your books are wholly wrong. That doesn't illustrate to my mind that my theory is wholly wrong; the theory is sound;

it is as sound as the multiplication tables.

With reference as to whether or not I think I could take the net additions, and the present life of a piece of property, without ever seeing the property, or knowing anything about the gross additions; the net additions have no relation whatever with the life of the property. The net additions show the growth of the property and that is all. The removals would show the life of the property.

"Q. But in all these reports you have here-in Exhibit No. 2, you show no removals at all except in the case where the removals ex-

ceed the additions, do you?"

"A. Oh, yes, we have-

"Q. (Interrupting.) Wherever it exceeds, your estimated life, then you have another cycle?"

"A. Yes, we assume that the replacements were made."

We assumed that regardless of the facts because, we hadn't the facts, and the only fair thing for the company was to assume that they were actually replaced at the end of the theoretical life.

"Q. Now, suppose, Mr. Lyndon, that in 1901 we had put in \$563,-810 worth of underground cable, and year by year we had taken out as much as we put in so that the net additions-

so that there would be no net additions but from time to time the cable would be replaced, but there would be no gross,-according to your theory in 1919 you would assume that all this was brand new cable, one-half year old, wouldn't you?"

"A. As I understand it you each year would remove the entire lot

of cables?"

"Q. Oh, no, each year we would just remove whatever was necessary.

"A. And replace it?"

"Q. And replace it immediately, but not have any additions."
"A. The age of the cable would be the average age of all those portions then in place. It would not necessarily follow that the age would just be half a year for the entire lot."

"Q. But on your theory the part that was put in in 1901 was re-

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placed in 1918, wasn't it, and at the time of making this report, would be one half year old, or in 1919 whichever you assumed."

"A. No, the additions there put in for each year are given for the

actual age in 1919."

"Q. I say you are assuming,---

"A. (Interrupting.) The reason being that the life as assumed is longer than any period back to which we go."

"Q. I see. The life is longer than 25 years. Well, let's take poles,

what page?"

"A. You will find that on page 17."

"Q. On page 17. That's probably a more accurate way of putting it,—a better illustration. Now, when do you have the cycle of poles, 1907?"

"A. 1907, yes".

"Q. Now, if you had been making this set-up in 1907, if all the poles, from 1901 up to 1907 had been placed in 1901, then in 1908, you would have assumed that all of them had a 11½ year life, wouldn't you?"

"A. I didn't get that."

"Q. Well, what do you do when the cycle comes around?"

"A. We assume that they were replaced. We haven't the data to show, but then it is due to the company to assume that they did replace them."

"Q. And you assume it regardless of the facts?"

"A. No, we assume that if the company did replace them it spends just that much in replacements."

Mr. Howard: In other words it is more favorable to the company

to assume that than not to do that.

"A. Certainly."

As to whether or not the whole thing is pure theory without any application to the facts at all, I will say it is based on the theoretical life of each portion of the plant, the equipment, and as we did

not know when the portions were replaced, we took the date of replacements as of the theoretical life. Now, if they went

a longer period of time than that, why, of course, the company is better off than our computations would show. It would have to be mathematical, without reference to the facts at all; we hadn't the facts.

"Q. And it would have to be corrected even on your own theory to be consistent, you would have to correct it, in the first place, to

get the correct life of these items of plant, wouldn't it?"

"A. It would have to be corrected, but to what degree I don't know,—but it would have to be corrected if we had the actual facts

with reference to all of these items."

"Q. Well, if you had looked in the City records and got the gross additions from 1910 to 1920, that is, if you were to start to do that now you would have to correct those figures in accordance with the facts?"

"A. Yes, but it is quite possible that when the corrections are

finally made,-

Mr. Howard (interrupting): We would be put under obligations to correct this report for what would have been obvious if the information had been furnished prior to the time the estimates were made.

Mr. D. A. Frank: You are assuming that we are under the duty of furnishing you the information to make your 2271 case; another thing you assume is that because the city happens to be the defendant in this case that some duty rests on the

plaintiff in the case to make out the defense for it.

Mr. Howard: We are assuming that the accountants employed by Mr. Lyndon asked the company for the replacements, the time made, and the amount of them and all information referring to that subject. It appears that Mr. Lyndon did not get the information and that he set up the estimates on the assumed life of the property.

Mr. Duls: Mr. Frank read in the record all of this information

on the 11th of February, and it is all in the record.

"A. It took us a month to get that information."

Mr. D. A. Frank: It hasn't been held back; It has been furnished year by year and is in your files.

"A. Why take a month to tell me that the data were on file here?"

Mr. D. A. Frank: I can't answer the question. You talked to them about the question of finding a great deal of information and that information was partly in Houston, partly in Dallas, and 2272 partly in St. Louis. It It takes some time to get the informa-

tion out, but I do know that our people worked in good faith to give you all the information you ever asked for, and finally when it came to the last question your accountants were informed that you already had that information.

Mr. Lyndon (resuming): We have the very intelligent paragraph at the end of that letter saying that the data are all in file in Houston, in the City Clerk's office. If they had only given us the information obtained in that paragraph at the time it was requested, we would have had the exact data. I did not know it was there.

I have not been working on this case for eight years.

I prepared Exhibit No. 2, the first part of February, and did not know the city had any data on this case. Mr. Howard did not say anything to me about these reports that you made to the city; I never knew it until you told me, or brought it up here since I have been giving testimony. I was here in February and left on the 12th. I do not remember that I heard you read into the record the gross additions; I did not testify here in February at all. I was here a part of the time that Mr. Kelsey was testifying, but wasn't here all

the time, and it might be that you read this when I was out. I have not read Kelsey's testimony; I read a few pages, spotted here and there, but I haven't had any time to read Kelsey's testimony. It is a fact that if the facts are as stated the set-up is wrong. How much wrong I do not know, it might be ten dollars, a million or it may - two or three hundred thousand dollars.

With reference to the rate of annual reserve for replacements on central office equipments the rate I used was 8 per cent; I used 8 per cent in comparison with Mr. Hoag's 10.5 per cent. I used a 12½ year life and apply my rate to the depreciable property. It cannot be that Mr. Hoag figures a 10½ year life and applies it to the whole property, that cannot be, because the only reduction in value is on the depreciable part of the property. I have not found any junk value for central office equipment. I took the telephone company's values, which I have set up here and that is 17 per cent.

Station apparatus, station installation, interior block wire, private branch exchanges and booths and special fittings, all those things

I have bunched and used 8 per cent for them.

"Q. Whereas Mr. Hoag used 11 per cent for station apparatus, three for station installation, and three for interior block wire and eleven for private branch exchanges and 11 per cent for

2274 booths, and special fittings."

"A. You see how timely the item is split up. We have a total cost of \$341,000 about, for that equipment; there is less than \$5,000 of that for booths. Now, to take off \$5,000 out of \$341,000 for a separate set-up where we must use approximations, is getting down to a degree of accuracy-

"Q. (Interrupting.) Mr. Hoag has brought to us actual figures and actual experience rather than theoretical, hasn't he? You say

you just tried to get an approximation?"

"A. It is a well recognized factor in mathematics even in infinite forces that an approximation is all that we ever get. Now, it is utterly impossible where we have a factor like depreciation, that probably no group of engineers agree on exactly, one may say 8 per cent and another 81/2 per cent-

"Q. (Interrupting.) And for that reason you bunched the whole

business?"

"A. Bunched the whole business where one of the items is practically negligible. We have \$341,000, and we have an item in that \$341,000 of \$5,000, and as part of the item composing it, one of 5,000,"

"Q. (Interrupting.) So you think that Mr. Hoag is hypocritical in having an exact figure on as small an item as \$5,000."

2275 "A. I think when you separate \$5,000 out of \$341,000 that it reaches a degree of absurdity."

"Q. Now, just exactly which one was absurd,-which is \$5,000?"

"A. The booths."

"Q. Well, he has applied the figure of 11 per cent to that, the larger percentage."

"A. Yes."
"Q. Which is the largest one of the items, station apparatus, station installation, interior block wire, private branch exchanges or booths and special fittings?"

"A. The private branch exchange."

"Q. Now, how much is it?"

"A. I do not know how much that is. The statement is made up of a number of the items and I happen to remember how small the booths and special fittings were, and gave you that figure from

memory."

"Q. Now, in making up an inventory and appraisal, a man who was doing that sort of work would bunch the whole thing together and say we have got about \$300,000.00 worth of this property."

"A. Oh, no, his inventory would show, but he would not carry the

calculation across on each one of them."

"Q. Now, when he got the totals, Mr. Lyndon, why, it would certainly be accurate for him to apply the proper percentages?"

"A. It certainly would, but he knows the proper percent-

"Q. Of course, you say it is approximation, but it is not taken out of thin air. Approximation is taken from the experience of

engineers for the last forty years."

"A. If the only test of the approximation you have to use is something that will happen in the future, not what happens in the past. Now, of course, the best guide you have is what happens in the past. Now, this is not a complete guide."

"Q. What is depreciation?"

"A. Reduction of value due to the passage of time and use."

"Q. Now, your idea is, that in forty years of experience with millions of details where accurate records have been kept by engineers of the performance that it is only an approximation as to what would happen with reference to any one piece of plant?"

"A. As to what vall happen."

"Q. And the same thing is true of life insurance with reference to one particular man."

"A. True."

"Q. But on the average the life insurance companies come pretty near telling what the average life of a thousand will be, that's true, isn't it?"

"A. Within some percentage. But there is always an error in life insurance computation,—a plague of influenza or anything where they based their calculation totally—

"Q. (Interrupting.) But, so that over a period of fifty years their experience would come pretty near being accurate?"

"A. It comes more near being accurate than ordinary guess."

"Q. By the way, let's examine the matter of depreciation a little with reference to your theory,—under your theory you subtract a certain amount from the value each year?"

"A. Yes, which amount must be paid to the company."

"Q. If it had not been paid to the company, you still subtract it just the same, but then the amount will have to be carried over to the cost of establishing business as a loss. But we have your testimony yesterday, or you at least thought that the Supreme Court of the United States thought we couldn't carry our losses forward into capital account."

"A. In that case, Mr. Frank, you see this whole matter is merely an establishment of a capital account on which the company should have a fair return. Now, it makes no difference whether you have a half million dollars depreciation on your plant, and you never

collected but \$200,000 depreciation, and therefore suffered a loss of \$300,000 which is set up in another account, to your credit,

or whether,-we will say having collected \$200,000 for the depreciation account, you can only put \$200,000 depreciation It makes no difference where the accounts are carried, the final thing is merely to establish a fair value and a reasonable rate

of return. "Q. But the value is the same, regardless of whether you collect

the income or not?" "A. It should be."

"Q. The value is just the same."

"A. No, if you have collected a sufficient sum of money to have paid the proper depreciation each year then that amount of money should be written off the value of the plant."

"Q. Do you know of any utility in the world that does it?"

"A. I don't know what utilities do?"

"Q. Do you know of any Commissions in the world that requires

it to be done?"

"A. I don't know of any Commission that does not require it. That is, whether the Commission requires or assumes that the value of the plant reduces annually?"

"Q. Yes. That is, reduces by the amount of the reserve for de-

preciation, is that your idea?"
"A. It reduces by the amount of the depreciation that is not set up, whatever that may be."

"Q. Name one decision by any Commission in the United

2279States that holds you?"

"A. I can't name you a decision. I think I could show you one this afternoon. I will attempt to at any rate."

"Q. You say you read the Knoxville case, does the Knoxville Water case hold that?"

"A. As I recall, I believe, that the Knoxville Water case rejected the allowance of a depreciation fund, if I recall it now."

"Q. You testified in the street care dase, and I thought-"A. I did in 1906 or 1907, but that's been some years ago and other things have intervened and I regret that I haven't a memory like a-I just simply have to refresh my memory from time to time. I don't remember anything about the Knoxville case except they fixed a lower rate than anybody who knows anything about a public utility would regard as a confiscatory rate. I think the net rate of the company was 4 per cent."

"Q. Don't you remember, Mr. Lyndon, that by the Knoxville Water case it was decided with respect to the depreciation that had to be subtracted that you couldn't use the 100 per cent new theory, but had to take into account depreciation in fixing the value?"

"A. As I remember it they allowed an insignificant sum for that."

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"Q. And that was physical depreciation referred to, also, wasn't it?"

"A. Well, it is quite probable it was a physical depreciation;

although on that I believe it was substantially the first case of its kind that we had in America.'

"Q. On what question?"

"A. On the question of confiscatory rates with reference to public utilities."

"Q. Wasn't the case of Smyth vs. Ames, wasn't that in 1897?" "A. (Interrupting.) I thought the Knoxville Water case older

than the Smyth vs. Ames?"

"Q. Smyth vs. Ames is in the 169th U. S. Reports, and the Knoxville Water case is in the 212 U.S. Reports. Would that indicate to your mind which is the older case?"

"A. It would, but that was not my memory."

Mr. Howard: What is the sense of putting that kind of a question,-they are all matters of memory.

(By Mr. D. A. Frank:)

"Q. Now, as a matter of fact, just using common sense and regardless of what your impression is as to what some Commission or Court has found, wouldn't you say that a piece of property you started to value would have to be examined, and your opinion formed on the present condition of the property rather than by taking some theoretical figure from a book?"

"A. You mean a determination of its condition by inspec-

tion?"

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"Q. I mean look at it, inspect it if you want to, but wouldn't the

best way to find out what it is worth be to look at it?

"A. It would be indicative of how the plant is kept up. It would be an indication. You could see that everything looked good and the plant was in fairly good condition, or you could see the apparent condition,-you could get a general feeling of the condition of the plant, but as for determination of its condition, why, of course, that 18 utterly impossible."

"Q. For instance just take the amount of depreciation that you claim in this plant, of \$918,000 on the book figures as used by you of less than \$4,000,000 and you get a percentage of 74 or 75 per cent

condition of the plant."

"A. No, not condition."

"Q. Well, what is it you do get?"

"A. Seventy to seventy-four per cent unexpired life." "Q. Well, you called it value, you call it per cent value?"

"A. Yes sir."

"Q. You say the per cent value is 74 or 75 per cent of the cost?"

"A. Yes."

"Q. Now every other engineer that has testified in the case including your associate Mr. Kelsey, has testified that the plant is in 92 per cent or 93 per cent condition. Now, are those engineers all wrong?"

"A. No, they could be right if their definition of condition was proper. If by conditions they mean unexpired life they are all wrong, but if by condition they mean the ability to operate. I should think they are too low."

"Q. You think it ought to be 100 per cent?"

"A. Yes, 99 to 100 per cent."
"Q. Well, that would be one thing that you and Mr. Allison

agree on."

"A. Well, probably now you distinguish between ability to operate and unexpired life, for instance, you may have a pole that is carrying wires, and as long as that pole stands up and carries wire it is a 100 per cent pole, but the day after it has been a 100 per cent operating pole it may break off at the ground and then the life, expired, may be 99.9 per cent gone, leaving .1 per cent unexpired life and yet it may have 100 per cent ability to do the work until the period of time of life has expired."

"Q. All right, let's look at page 1 of your Exhibit No. 2, where

you have buildings. You have buildings, \$280,496?

"A. Yes."

"Q. Now, you have the junk value of \$106,560?"

"A. Yes."

"Q. You have the depreciable value of \$173,936 and you have the accrued depreciation of \$30,295, and you have the 2283present value of these buildings \$250,201?"

"Q. Now, theoretically the buildings are worth \$250,201.00?"

"A. Yes."
"Q. Practically the buildings are worth more than double that, aren't they?"

"A. No."

Well, what are they worth practically, -actually?"

"A. They are worth actually \$250,201.00."

"Q. Notwithstanding the fact that it would cost nearly \$600,-

000.00 to build them today?"

"A. Regardless of that. It, to my mind, is not related to the sub-It did not cost that, and what might have been if something else happens is not, as I can see it, one of the points. These buildings cost a certain amount of money and it is quite probable that in common with every utility, that money was raised on bonds, and therefore-

"Q. (Interrupting.) But they were not, Mr. Lyndon, because

this company has no bonds."

"A. Well, as a general thing the money is raised on bonds and the investor who paid for that building, if that had been the case,and this is a case where you radically differ from other utilities, if

that had been the case, all the investor could ever get or hope 2284 to acquire is his bond, his face value, that's the man who furnishes the money to put up the building."

"Q. Well, what about the man who takes the risk and puts up the

building?"

"A. It is customarily assumed that the man that puts up the money is the man that takes the risk."

"Q. Well, if a man owns a lot by the Rice Hotel, his lot is worth

\$400,000.00, and he has \$200,000.00 in cash and borrowed \$400,000.00 from a trust company, making a total investment of a million dollars, is it your idea that the man who loans the \$400,000.00 is the only man taking a risk?"

"A. No."

"Q. As a matter of fact he is the one taking the least risk?"

"A. Whoever puts up the money, if a risk exists, is the one who takes the risk."

"Q. But the man who advances money on bonds is the one who takes the risk?"

"A. Not necessarily."

"Q. Doesn't he take less risk than the man who puts money in stock?"

"A. Yes, usually I should say that a man who puts money in a bond takes less risk than a man who puts his money in stock, but as a general thing most of the money that has ever been put in any

utility has come, in the past, almost entirely from the sale of bonds. Now, then it happens that this isn't necessary in

the case of the American Telephone & Telegraph Company, but no matter how you shift values on paper, the actual investor never gets any change in his investment, simply because on that bond he gets a return that is stipulated, and if values go down, why, it means, that somebody else has to suffer while he gets that return and if values go up he doesn't get any profit from it, and the real investor the man who furnished the money is always therefore tied to the original return regardless of theories or what happens."

"Q. Suppose the court was so beknighted that it couldn't follow

your theories and wanted to find the value-

"A. (Interrupting.) Yes, sir."

"Q. Then he would have to go through some sort of mental process to find out what was the actual cost of the building, what it is worth now?"

"A. If he determined that he wanted to know."

"Q. And if, instead of finding the cost, he wanted to know the value?"

"A. And if he wanted to know what it would cost to erect such a building, now, why, he would have to go through the tribulation of detailed estimates, not too detailed, not too completely detailed,

he could drop out several small items of a hundred dollars a piece and aggregate them under a general estimate, but it would be necessary to get an estimate on the cost of such a building at the present time, if such information were wanted, and if it were assumed that it would in any wise bear on this case."

"Q. Now, suppose he thought he had to find the value of the property, why, according to your idea, the figure that you have to put in is merely the cost figure and does not pretend to be a reproduction figure, then he would have to go to the reproduction method?"

"A. If he wanted the reproduction value, he would."

"Q. Now, if the Supreme Court of the United States holds the reproduction method is to be employed then this court would be

bound by the Supreme Court's rulings and necessarily would have to go through that process?"

'A. I don't accept their statement."

"Q. Mr. Lyndon, when we adjourned you were about to tell us why it was, or had been trying to tell us why it was that you took a very much lower figure for buildings although the actual cost had gone up very materially in the last few years, since the buildings have gone up here?"

A. I did take the actual cost."

2287 I did take the actual cost but not the present value. I took the value of each object at its original value with the accrued Due to depreciation on everything except the land which had a negative depreciation, that is, instead of having suffered a reduction in value, from the time it was purchased, it had an increase in value, which is just as logical to apply, as to apply a reduction in value due to depreciation, which continues with the prospects of obsolescence or inadequacy or final wearing out. Of course, we all know that the buildings constructed here by the Telephone Company are never going to wear out, within a period of time that would be covered by any financial methods or assumption that now obtain, that is to say, if that building is maintained, I see no reason why it shouldn't be a good structure in fifty years, and so the question of its wearing out, as I view it, is wholly removed from this discussion. It will either become obsolete or inadequate, or the value of the property may under some conditions rise so high that it will actually pay to remove that building and carry your exchange somewhere else. It is the prospect that the usefulness of that building, so far as the telephone uses are concerned will pass within forty years, but certainly not that the building will wear out or rot out, or become useless as a building. Now, assuming that 40 years will be its useful life to the Telephone Company as a telephone exchange, its value each year diminishes each year by 2½ per cent.

2288 "Q. If we had two buildings just exactly alike, one of them was built seven years ago and cost \$200,000.00 and the other one was built this year and cost \$400,000.00 your idea is one is worth just double what the other is and they are exactly alike, and that both of them will live one hundred and fifty years?"

"A. Oh, usually they do that. In one case you double the investment, in the other,-in one case you have double- the investment

in it and are entitled to double the return on it."

"Q. I am not talking about what we are entitled to, but am talking about—well, the facts are that we have two buildings just alike and on lots equally as valuable and you were valuing them at the present time, and one of them was built seven years ago, and the one was just completed; the fact that one cost \$400,000.00 wouldn't make it any better than the other one, which cost \$200,000.00."

"A. It wouldn't make it any better."

I do not see that it would make it worth any more. From one point of view it would, and from another, it would not; that is it would not be worth any more as a telephone exchange as affecting as it were, its usefulness to the company. That could not be helped

though if you had invested the money the public would-if it were built at that time of high prices to fulfill a public need and public demand, it would be the duty of the public to pay a return on it.

Q. I am not talking about duty, but am trying to get away from your theory and get you back to a common sense theory-

Mr. Howard (interrupting): What he wants to know is if the two buildings are both worth \$400,000.00, whether they are both worth the same.

(By Mr. D. A. Frank:)

"Q. Mr. Lyndon, let me re-state it to you: That is we have two buildings precisely alike on lots equally as valuable, but one was built seven years ago, but kept up in 100 per cent condition to the present time, and the other one just completed, but the later one cost \$400,000.00. Now, the question I am asking you is this; would the building built seven years ago be less valuable to the Telephone Company than the building just completed?"

"A. It would not be less useful to the Telephone Company and would not be less valuable to the Telephone company for telephone

purposes."

It would have less worth as a portion of the assets of the company; it would have less worth by whatever small depreciation had taken place, but including that, it would have less as a

portion of the assets of the company. The cost would control as fixing the assets of any company, and furthermore, if it were not so, and there would come later a time when both might be reproduced for less than either of them cost, you would have to begin changing the worth of the buildings and everything else with every change in the market. At the present time I think one building would be worth as much as the other as an asset of the company, and another thing about getting to it, the idea as I understand it the value upon which rates can be predicated not for a few months, but for some years probably.

I understand what the court was trying to do at the present time is to try to determine the present value of the property on which rates should be based and rates which undoubtedly for the purpose of stability, would be made for some considerable period of time, I was being asked merely about the value of the property, and the question of what is going to happen in the future is not before me, and I am trying to assist the court in arriving at the fair present value of the property. The present value of the property wouldn't have any value except as junk if there was no future possibilities of the company.

The future of a paving stone would probably be very brief. I am unable to separate in my mind the immediate existing value of this company from its future operations. I do not take into consideration something else besides cost. I consider that

the book cost is really the value, because in that case the company is protected, because no matter where values go in the future you are not having to make additions at the top of the market, at the highest prices, and I do not regard it as fair to the company to place the possibility of that high cost to be eliminated, because at some future time when things return to their normal state again, they cannot then demand a reproduction value, and I would not regard it as fair. My view of the present value of the property is whatever the books show has been actually expended for it. Land is the only part of the plant that has gone up in value, and even though it would cost twice as much to reproduce one of these buildings I say it has not gone up in value. If we have a certain number of thousand feet of underground conduit, and that has gone up in price so it would cost more to reproduce it in my opinion that isn't worth any more money, and for this reason: you cannot dis-associate this element,-if you attempted to sell the building today and should be able to do so at something like the present cost of reproduction, and then attempt to sell some other part or draw out cables and sell them at the present cost of reproduction the balance of the plant would be junk. You cannot separate the units and the only

criterion of that kind that you can possibly offer is the plant as a complete unit. Now, if there is a purchaser for the plant as a complete unit at a considerable higher price than it actually cost the company, the purchaser taking depreciation as well, it might be one element which would determine the value.—determine the value that would lie beyond the book cost, but to segregate each separate portion, to sell this for so much money, and that for so much money, leaving the rest as junk doesn't appear to my mind as being logical. You could not pull the land out from under the building and sell it, but, as I pointed out, it may be that the value of this land might appreciate to such an amount at some time that it would pay you to move the building somewhere else, and the increase in the value of the land would be such that you could not only pay for that, but take a profit besides. If that never hap-The cost of the pened, you would be just where you are today. land plus its appreciation in value. The change in value and taking the equipment first, the change in value comes from the fact that you know that within some period of time, and what period of time is a thing which nobody actually knows, but within some period of time, the different elements of this equipment will have to be replaced: it matters not for what cause, at some time it will have to be replaced, and if you assume some time based on fairly

2293 good judgment judgment and previous history, then you will see how rapidly this change from its original cost to its junk value takes place, and if it takes place in a given number of years, it undoubtedly diminishes in value eachy year. That's so much for the equipment. That's assuming the life and assuming that the property will last just exactly that number of years and will be replaced in that number of years. Now, in the case of land, the land does not diminish in value, it doesn't wear out. That is practically true of all land in any American City; there are exceptions, of course that there have been drifts and movement of population away from a certain district and some land will diminish,

and if it does it suffers a depreciation, but as a general thing in any American City land appreciates in value. It is certainly so with the property that you have in use now. Now, there is nothing that can happen to that land that will require its replacements; that land will be there forever as far as we can see, and there will never be any occasion for its replacement. There will come a time when its appreciation in value will be such that you can sell it to some individual and move the building somewhere without interrupting the telephone service, and make a profit out of the transaction. Until that time comes you would count the appreciation because there is some character of increase in the land that is decreased in the value

of the equipment. I do not merely take into account the 2294 appreciation of the land in order to cut down my depreciation reserve: it makes scarcely any difference in your depreciation

reserve, but considerably reduces your accrued depreciation.
"Q. You look at page 146 of your 1918 report where you set up a detail of something you mention on page 8 of your Exhibit No. 2 with reference to the San Antonio Board?"

"A. Yes."

"Q. Now, you criticized what was done there and drew certain conclusions from it. Now, tell me what your idea is as to what these figures mean with reference to the Board taken from San Antonio,"

"A. Into the Houston Exchange. Just a minute, I don't know where I offered a criticism. I think I made just a simple statement.

I do not recall that I ever criticised.'

"Q. If you object to the word criticism, I will say said at least that the Board was worn out."

"A. No. on the contrary-

"Q. (Interrupting.) What did you say."
"A. I said that the Board had in all probability reached a con-

dition where it was inadequate."

"Q. You say on the theory that the life of a switchboard is twelve and a half years it would have been replaced over five years ago, however, I understand it is still in good operating condition, and may give service for some years to come. With a de-2295

preciation allowance of 8 per cent the entire depreciable value of the board was amortized some year- ago so that the depreciable value has been zero for around five years, and its remaining value is simply that of junk, and while that is not physically a fact it is financially true. Now, look at what you call the work sheet, which is set out on page 146 and just tell me how you arrive at the conclusion that I have just read in your exhibit?"

"A. Well, the conclusion is drawn from my understanding of the

age of the board wholly."

Q. Well, what happened there,—what does this work sheet or

estimate amount to?"

"A. Well, the estimate first shows that authority is requested for doing certain work, which work is this: This estimate covers cost and installation of one relay central office equipment for 2,250 subscribers' lines and the necessary inter-office trunking facilities this equipment is that taken from the old San Antonio Exchange. The

estimate is necessary in order to care for additional growth, present board being equipped to its ultimate capacity." That is to say-"

"Q. (Interrupting.) We understand that, but explain the figures

is what I am after."

"A. The estimate,-gross expenditures is \$39,800.00, that is new plant, plus cost of removal old chargeable to construction of new plant is \$39,150.00."

"Q. What is the \$11,000.00?"

"A. That \$11,000.00 less salvage,-that's the salvage that I assume was allowed to the San Antonio Exchange or the credit and that leaves \$28,800.00 as the amount chargeable to the Taylor Exchange."

"Q. And what does that \$28,800.00 mean there?"

"A. That \$28,800.00 is the amount of money which you have charged the Taylor Exchange after deducting the salvage and crediting the San Antonio Exchange."

'Q. It is, or that \$28,800.00 of the Old San Antonio Board is

carried or is charged now to the Houston plant."

"A. Yes."

"Q. You would be surprised to find that it is not true, wouldn't you?"

"A. I would. That is, as I understand these figures, that the gross is a certain amount, and the salvage is a certain amount. Less salvage of a certain amount indicates that the amount is credited into a place from which it is taken. That is the engineering understanding of salvage."

'Q. But it is due to your engineering inexperience in telephone engineering that you don't catch what you will see if you look at the

figure, that the \$11,000.00 is the salvage from the Taylor 2297 Exchange and not from San Antonio at all, the old Taylor Exchange, do you see that?"

"A. It is not indicated on this work sheet. The statement is made here very clearly on this estimate that it is to cover the cost of establishing additional facilities in the Taylor Exchange and that the

equipment is taken from San Antonio."

"Q. But these figure are only treating of the actual cost charged on the books and the salvage credited to it in the Houston Exchange, and that alone there shows that the expenditures,—the gross expenditure in Houston,—in the Houston Exchange will be \$39,800 less the salvage that will be taken out of the Taylor Exchange of \$11,000 which will mean that the net expenditure will be \$28,800?"

"A. Well, the net expenditure is the figure we will be concerned with, and that is just exactly what I have stated that the net expenditure was, \$28,800, and the fact that I credited the salvage to San Antonio instead of the Taylor Exchange has absolutely no bearing on it. I assumed it was to the point where the switchboard was taken out which regardless of specific telephone experience is the customary assumption, that is, the place from which equipment is removed is the place to which it is customary to credit salvage."

"Q. Mr. Lyndon, don't you know that the account in Houston

would not contain the salvage to the San Antonio Exchange, but that the books would be kept there in accordance with the facts and the time the salvage was taken out?"

"A. No, the account in Houston is the account, of the Southwestern Telegraph & Telephone Company involved two cities and

while what you say was probably true-

"Q. (Interrupting.) Because of the fact that you didn't understand it, why, you jumped at conclusions and made assumptions there and that were not warranted by the facts?"

"A. No."

(By Mr. D. A. Frank:)

"A. Look at that Mr. Lyndon, can you recognize that the—in the first place, do you recognize that this is only an authority sheet, you called it a work order. You see the words 'Authority Sheet' at the top of the page?"

"A. Yes, this particular sheet is an authority sheet and the

amounts in there are the estimates."

"Q. You recognize the fact, do you, that from the first line that we have just been considering the net cost of the switchboard as installed would be \$28,800.00 charged to the Houston Exchange. Do you recognize that? That is, if there was salvage from the Taylor of \$11,000?"

"A. If the total was \$39,800 and the salvage there was \$11,000,

the balance would be \$28,800."

2299 "Q. Not salvage from any point, because Salvage from San Antonio would not be subtracted from the \$39,800. You would add the salvage if it were taken from San Antonio, don't you see that?"

Mr. Howard: Mr. Frank that doesn't follow.

(By Mr. D. A. Frank:)

"Q. Mr. Lyndon, if you can't see that-

"A. (Interrupting.) If you consider the property as a whole it doesn't follow, but if you consider the two exchanges absolutely separate then it would, that is, salvage credited to a part of the property, it diminishes the succeeding value of the board. That's a very obvious thing."

"Q. Will you take a pencil and a piece of paper and let me give you the items for the San Antonio Board so you can under-

stand it?"

"A. Aren't they given on the following sheet?"

"Q. Not as far as I know."

"A. The details of material—
"Q. If you had known anything about economy or telephony
you wouldn't have jumped at the conclusion that \$28,000 was the
junk value of the central board?"

"A. I never have so stated."
"Q. Well, what have you stated?"

"A. I took the \$28,000 as the amount chargeable against the Taylor Exchange as a portion of the cost."

"Q. Well, you wouldn't have taken the \$11,000.00?"
"A. If I had known the specific methods of the Bell Com-2300 pany. I wouldn't have done that."

Mr. Howard: That is the idea.

"A. (Continuing:) And I think the principal thing that I wanted to show there was the life of the switchboards is sometimes much longer than that which we assume. I understand, of course, the evidence has been adduced here to show that all of the switchboards removed, the average life is less than seven years, but did not include the switchboards all through Southwestern territory, which have not yet been removed."

"Q. That is the trouble with your whole theory, Mr. Lyndon."

Mr. Howard: Now, if the Court please, I object to Mr. Frank setting himself up as the Master in this case, because he is not. If he has those opinions about Mr. Lyndon, what he knows and he don't know, he should reserve those and argue them to your Honor, when we come to argue them, if you will hear the argument, but it is not a part of his duty now, because he is-

Mr. D. A. Frank (interrupting): I will put that in the form of

a question.

Mr. Howard: Every time I ask about three words, you interrupt

"Q. Mr. Lyndon, the assumptions that you indulged in are 2301 assumptions that grow out of the fact that you are not familiar with the telephone business, is true, isn't it?"

Mr. Howard: Now, Mr. Frank-

"A. (Interrupting.) I don't know-

Mr. Howard: Mr. Frank, that is a statement that should not go into this record because it is an unqualified statement of Counsel, who is not under oath, and besides it is a statement and one that ought not to be made.

The Master: Objection overruled.

Mr. Frank, and without any qualification, there are many things in the Bell System of Accounting and running its offices and a good many things about records of traffic and standards of operations which the Bell Company have adopted that I do not know, and that I would not have means of knowing without making an investigation of such an extended character that this city could not afford it. Either from the standpoint of the time consumed or the money required. There are many approximations I have been obliged to make, and which I believe to be in the main, correct, due to the fact, that I had only a comparatively limited time and a very limited fund to draw on. We have not been able, of course to take

up the matter in the detail that you have been able to, naturally there are many approximations, but I believe that every approximation that I have made has been in favor of the company. If it has not been, it has been an error of judgment be-

cause I have tried to make it so.

"Q. Mr. Lyndon, if the switchboard, if the parts of a switchboard that can be moved from one town to another are parts that don't wear out as Mr. Kelsey said here, they last forever, as he put it, whether they last forever they last quite a long while, for instance, frames don't wear out do they?

"A. No, there is no reason why a frame should wear out."

"Q. And take the cables, a lot of those things about a switchboard ?"

"A. For instance, I don't believe your jacks wear out. springs may require replacing occasionally, but I see no reason why

a jack should wear out; I mean in a reasonable time."

Q. If we take a switchboard that costs \$26,000.00 at San Antonio and costs \$6,000.00 to install there, making \$22,000.00, we spend tearing it out \$1,100.00, making \$33,100.00, and we charged up \$15,100,000 for reserve for replacement over at San Antonio and took that just as its junk value of \$15,000.00 and take that and go and spend \$5,000.00 on it, so that we make it practically the same as brand new-a brand new switchboard and install it down here, carrying that part of the material at practically \$20,000.00,

which it had cost-which had cost \$32,000.00 in San Antonio, would it be perfectly fair to do as you have done and assume that that switchboard has the added life at San Antonio and at Houston, shouldn't you compare it with a new switchboard?"

"A. A comparison with a new switch-board would hardly be a suitable thing for this reason; that regardless of how well you can rehabilitate that part, the only thing you can provide against is wear. You cannot provide against inadequacy nor obsolescence. That part has been induced a certain length of time and is started towards obsolescence even if not inadequacy. It reached inadequacy at one point, it is brought to a pint n point now, where it is wholly siequate. It may become inadequate, but it is more likely to become obsolescent. What I am trying to point out is that inadequacy and obsolescence are real factors that cause removal of equipment. There is not much of actual wearing out and getting down to the point of where you can't proceed any longer to operate."

"Q. Well, but that is not the point we are discussing."

"A. It is in this way; that from the date that board is constructed until the time it will be removed permanently for some reason, there is a certain span of years, let's say twenty-five, fifty 2304 years, anything that is some time-

"Q. But that is purely an assumption, isn't it?"

"A. No; it is a known thing that everything in this world perishes, and that is a matter of organic life or construction by mankind, fortunately. That isn't an assumption and I don't believe your engineers would say that is an assumption. I think they will

agree that a time will come when that board will be absolutely removed from service at all."

"Q. Well, that is stating a fact, of course, that is bound to be

recognized."

"A. Yes, now, then, we must assume, we can't classify one specific board, we have no data on specific boards—one specific board, naturally its time of life is ultimately ended. We have to use the average of what happens to switchboards in general. Now, if we apply it to this board, we will say it has long outlived its theoretical life, which is my statement there, that theoretically this board perished six years ago; practically it is still working."

"Q. Doesn't that mean theoretically though that the entire plant put on the same basis perished on your theory and practically we

could be operating a telephone plant here?"

"A. Unquestionably, which shows and would show that 2305 the rates of depreciation have been taken too high, but we always take them a little too high. We are afraid something might happen for which we would not be prepared."

"Q. That would cause your values that you have assumed though,

to be entirely too low, wouldn't it?"

"A. In this way, it might — that if the rates of depreciation were diminished, the accrued depreciation would be diminished and, therefore, the subtractive factor would be less, making the per cent

value of the property higher."

"Q. Where would be the difference, Mr. Lyndon, in one section of the switchboard here in Houston, I don't say section technically, but one portion of the board which was practically the same as the rebuilt portion of the San Antonio switchboard, where would be the difference between the two, if the portion that was rebuilt was practically the same as a brand new switchboard and they were put together so that you couldn't tell, would there be any more obsolescence in the old section than there would be in the new section?"

"A. If they were put up at the same time, if one board is completely habilitated so that all the wear is eliminated and then it is identical with a brand new board that is put along side of it and the

two operate together under the same conditions, the date of obsolescence or inadequacy should be simultaneous."

"Q. There was an advantage wasn't there to the company and in a measure to the public in putting in that section of the switchboard, the net cost of which was \$28,800.00, over using the same kind of a switchboard brand new and paying, say, forty or forty-five thousand dollars for it, wasn't there?"

"A. It was the only rational thing to do."

"Q. So that you have no criticism to offer of the act of the com-

pany in putting it in?"

"A. On the contrary, if they did have a board that they could rehabilitate and put in, there would be a criticism if they failed to do it and bought a brand new board for the purpose."

"Q. Let's examine your exhibit a little bit on your License Contract or License Revenue, I believe it is your Lyndon No. 13. Now,

here you have considered nothing except the instrument services, have you?"

"A. That's all."
"Q. What do you know about the work of the General Staff for

the licensee or for the Associated Company?"

"A. I understand that there is some considerable experimental work being carried on. Just how much of this work is done by the Western Electrical Company and how much is done at the cost of the A. T. & T. Company, as a separate organization, I don't know.

Nor, do I know the value that the efforts of the "General 2307 Staff may be to the many thousands of local companies scattered about the country. I regard it as a Consulting Engi-

neering arrangement."

"Q. Do you regard the financial arrangement by which this company has obtained practically all of the money that has gone into the plant, do you regard that as consulting Engineering?"

"A. No."

"Q. In the street car case, you allowed the Street Car Company \$252,900.00, for stock and bonds discount, didn't you?"

"A. Yes, because they have experienced it."

"Q. Now, if it had not been for the relation between the Southwestern Company and the American Telephone and Telegraph Company, there would have likely been some such experience as that on behalf of the telephone company, wouldn't there?"

"A. I should say so. You see the Street Railway Company is

not kin or related to anybody."

"Q. Well, suppose the Southwestern had not been kin or related

to anybody?"

"A. The Southwestern Telegraph & Telephone Company is an inseparable portion of another organization. The fact, that a man goes to the banker to borrow money and the banker—I mean some—

I think are comparatively different; that is to say, you would probably have suffered the same sort of loss that the Street Railway Company did if you had a strictly independent local company, but to say that there is a credit to attach because you

lend money yourself is a thing I can't quite gather."

"Q. Well, do we lend money to ourselves?"

"A. Well, if the American Telegraph & Telephone Company own the Southwestern Telegraph & Telephone Company, and one furnishes money to the other, it has that aspect."

"Q. Is the American Telephone & Telegraph Company a banking

corporation?"

A. I don't know whether it is a banking corporation, but I understand it is highly prosperous."

"Q. Well, how does it get money?"

"A. It has out securities which I understand, a large portion of which, I understand, was sold and that money came from that

"Q. Well, for the last several years it has been paying more than eight per cent on its money and we have been getting money from them, the evidence in the case shows, that 5.88 per cent.

Would you consider that of some value to us?"

"A. I don't believe that 5.88 per cent is any less than the companies,—up to the past two years, I don't know about before the past two years,—that highly solvent, permanent, prosperous 2309 companies have been able to borrow by paying that, without having any relation other than that of banker and customer."

"Q. The American Telephone Company, though has loaned this money to us from time to time, and they have taken stock for the

notes. Will any banker do that?"

"A. I don't know that. I suppose that a banker will make a purchase of notes if he regards them as good and won't if he doesn't."

"Q. That practically amounts to taking stock for all of it. We have no bonds outstanding. The American Company has taken stock for it, but such money as they have loaned us, they have loaned on the basis of 5.88 per cent. You think that is not an advantage to us?"

"A. I think it would be an advantage that you don't have to go through the negotiations necessary to get money at 5½ and 6 per cent. But what I do know, and I know very definitely, that up to a year and a half ago on well secured loans that some money was being loaned on four and three quarters per cent."

"Q. But that was a loan. This is a stock proposition. How much stock could you sell on the basis of four and three fourths per cent?"

"A. To the public? Very little."

"Q. Well, where are we going to get money unless we get it from the public, unless we get it through that relationship?"

2310 "Â. As the relationship is that of an owner, I can't understand just why the public should pay to the owner any amount of money, because the owner furnishes the money to his own property."

"Q. But that is actually costing him on your theory of ownership, it is actually costing him more than eight per cent and into the account has been charged only 5.88 per cent do you think that

should be taken into consideration?"

"A. Unquestionably, but I never—this is the first time I ever heard or had the slightest suspicion that the American Telephone & Telegraph Company had to pay above 5 per cent for money."

"Q. You think that they can get money for 5 per cent, do you?"

"A. I did think they could get it around 41/2 per cent.

"Q. Have you looked into today's paper or have you looked in a paper for a week to see the quotations on the American Company's

six per cent convertible?"

"A. No, I have not, but we are speaking about the immediate present. We are speaking about the period of a number of years. Most of the money that has been put in this property was put in it about two years ago."

"Q. But we are talking about the value of this relation to The

Southwestern Telegraph & Telephone Company."

"A. Yes."

"Q. And do you recognize the fact that this relation was entered into at the time when The American Telephone & Telegraph Company was not the controlling factor in the Southwestern Company?"

"A. I did not know that there ever had been a time when it was

not the controlling factor."

"Q. Well, the evidence in this case shows that the time the contract was entered into The American Company owned only thirty five per cent of the stock?'

"A. Well, if that isn't a controlling factor with the rest of the

stock scattered, I would not know what one is.'

"Q. It so happened though that one witness testified here with reference to about 35 per cent which he said that his company at the present time has the relation and the American Telephone Company has never exercised any control or attempted to exercise any control over his company?"

"A. I would regard an obligation-I regard a block of one third of the total stock in the hands of one control as the dominant and controlling element if the rest were scattered. Now, if as a mat-

"Q. (Interrupting.) You assume though that some is scattered?"

"A. Well, let me qualify that and finish. If the rest is in the hands of one party, then it would not be, but if that holding is the sole block of any magnitude, it seems to my mind unquestionable but that it would control?"

"Q. Well, if it were in fact, in the hands of local subscribers-it might be quite the reverse, mightn't it?"

"A. It might."

"Q. Now, you have valuated this 41/2 per cent on the instrument service in the 1918 report, haven't you?'

"A. Yes, I valued that in the 1918 report."

"Q. Do you remember what per cent you took there for the instrument service?"

"A. No, I don't remember."

"Q. Now, your Exhibit No. 13 you have taken 18 per cent have you not?"

"A. Yes."

"Q. What did you take in 1918?"

"A. I don't know. We have a copy here."

"Q. Now, Mr. Lyndon, compare page 136 of your 1914 report and page 100 of your 1918 report and page 1 of your Exhibit No. 13 on Instrument Service. Now, in 1914, you assumed a cost of these instruments of \$2.50, 1914, \$2.50."

"A. Yes."

"Q. And in 1918 you assumed a cost of \$2.75, that is correct, isn't

"A. Yes."

"Q. And in this report you assumed a cost of \$2.70?"

"A. Yes."

"Q. Just how would you assume a price of only 20 cents more for instruments now, than you did in 1914?"

2313 "A. The fact that 20 cents applies to all the intruments and that is for twenty-six or twenty-seven thousand instruments of which twenty-one or twenty-two thousand were in use in 1914?"

"Q. Well, do you think the same instruments are in use now?"

"A. I don't know whether the same ones are, but I believe those instruments, like a brook, go on practically forever. They are taken back to the factory at times repolished, renickeled and a screw put in here and there and sent out again."

"Q. Now, in your report for 1914, you had an annual charge for

interest of eight per cent?"

"A. Yes."

"Q. But this year you used only seven per cent?"

"A. Yes."

"Q. Interest charges have gone down?"

"A. Not that; I am quite clear I think in my report why I had allowed seven per cent as the net return during the present time, instead of the usual eight per cent which is usually customarily allowed public utilities and that was that the war had put a brake on everybody and it was the duty of utilities to bear some of the burden."

"Q. Notwithstanding there was no Court ever held that, you are

going to reduce the interest rate for public utilities?"

I gave that as a reason for the recommendation to the City Council to limit the present returns at the present time, and

until things got better.

The rate of return I assumed when I was talking about the street car case, I discussed seriously, six, seven and eight per cent. My recollection is that I testified that seven per cent was an ample return at the present time. My testimony does not show that I adopted eight per cent. The Court adopted eight per cent in his findings. I testified that eight per cent was a fair normal return for all utilities at the present time. It is not my recollection that I ever testified that eight per cent was the proper rate of return at the present extraor-

dinary financial period.

In 1914, I adopted seven per cent for maintenance. And in this report adopted three per cent, that was used, that was due to additional data, which I got. You see in the 1914 report I took a great many things from the suggestions of the Bell engineers. Later when I made the 1918 report I got other and additional advices that indicated to me that the amounts used in the 1914 report was too high. I do not know as a matter of fact that the Bell engineers have used only one and a half and one per cent for maintenance. I got from some source that three per cent was sufficiently reliable to my mind to use, and seven per cent in 1914. For depreciation,

2315 but I felt at the time that it was too high still.
In 1914 I used eight per cent for depreciation.

"Q. And at the present time you use five per cent, whereas Mr. Rhodes testified to eight per cent, and Mr. Pennell to eleven per cent for depreciation?"

"A. Yes, it is my opinion that depreciation except for possible ob-

solescence, is almost negligible. They are so easily maintained and there is ample maintenance expense, but obsolescence overtakes them always, there is no question."

For general miscel-aneous in 1914 I used one per cent, and in the

present exhibit I use three per cent.

In 1914 I used for taxes three and a half per cent, and for insurance one half per cent, and those items were left out of my present exhibit, the idea is that taxes are not based on full values at any time, and the amount that is necessary to take care of the taxes is included in that three per cent general and miscel-aneous item.

In 1914 I used twenty-seven per cent for an instrument charge, and in 1918 I used twenty one per cent without giving any details; that is on page 100 of my report, but I was under the impression that the details were given in there. I know that the items were

- detailed. It is evident that they were detailed only on the working papers, and not detailed in the report, but I know that 21 per cent was the correct figure used by me with the details used. The percentage used by me now is eighteen per cent. Now, that eighteen per cent varies from twenty-one per cent, by three per cent. One of those per cents come from the change from eight to seven as the net returns. You have got the details of it. The actual cents that I allowed for instrument service in 1914 was 67½ cent-for instruments, and in 1918 it was 58 cents, while in my present exhibit it is 48.6 cents to eighteen per cent or 48.6 cents for instrument service. I believe that the former percentages were too high, considerably too high, and in the case of the 1914 report, obviously too high.
- "Q. Now, Mr. Rhodes, who testified on this, used the basis of twenty per cent and a valuation of the instruments at \$4.50, and Mr. Pennell who testified on it used a basis of twenty-three and a half per cent, and a valuation of \$4.45, so that Mr. Rhodes found the instrument service to be 98 cents and Mr. Pennell found \$1.10 as compared with your 48.6 cents."

"A. Yes, but their percentage was not far from mine, it was within two per cent. It was the charges for instruments that made the dif-

ference."

I did not adopt a price of \$2.70 in 1920, for instruments which sell on the market according to my testimony as you people understand it for merely five dollars. I understand that they sell those parts furnished by the American Telephone & Telegraph Company, now sell from \$3.20 to \$3.30 is my understanding. Mr. Kelsey told me that. I don't know that Mr. Kelsey testified to that on the stand. I have not read his testimony, but I went over that with him and then I put that on the basis of the total number of instruments in use owned by the American Telephone & Telegraph Company and the set-up on their books for the total number of instruments is figured \$2.57 each on that basis.

"Q. So the only basis you have is what you remember that Mr. Kelsey told you about what the instruments sold for without knowing whether they were the same instruments or not?"

"A. No, the real basis is the seven million telephone sets owned by the American Telephone & Telegraph Company, with a book cost

of \$18,000,000.00."

That is \$2.57 each, and supposing that were true I should think that necessarily would assume that the instruments in Houston were worth just on an average of what they would be worth; I would assume that, and I would think it was very logical, and a well based assumption.

As to whether or not I got any quotations at any time on these instruments from the Kellogg Switchboard Company, or the Western Electric Company, I haven't had any quotations since 1918, and the quotations then I do not recall having gotten direct. I got them through a telegraph Company,—rather a telephone company.

Mr. Howard: Just a moment, Mr. Frank, you spoke about the open market for these instruments. What open market is there in this country for these parts?

Mr. D. A. Frank: Oh, there's a big open market, millions of them

sold every year.

Mr. Howard: Sold by whom?

Mr. D. A. Frank: By the Kellogg Company, Stromberg-Carlson Electric Company, and the Western Electric Company, and there is some of them in St. Louis.

I do not know a specific instance, but I understand that the Western Electric Company is, say around \$160,000,000.00; the Kellogg is about \$6,800,000.00, and the Stromberg-Carlson is probably doing \$3,000,000.00. That is enough to make enough instruments for Houston. I used twenty-six thousand three hundred and eighty instruments in my set-up, and I think I took your January 1st, 1919 number; I am under that impression now. The number on Decem-

ber 31st would be twenty-seven thousand seven hundred and 2319 twenty-five,—about twenty-seven thousand eight hundred.

"Q. Now, do you know in addition to that, that there were 674 instruments at the switchboard that you didn't use, at the Central office?"

"A. I understand that that was a part of the C. O. equipemnt."

"Q. Well, it is a part of the C. O. equipment."

"A. Oh, it is a part of the apparatus furnished by the—
"Q. (Interrupting.) American Telephone Company?"

"A. Yes."

"Q. And that there were seventy-three used for testing?"
"A. I didn't know you had that many for testing."

"Q. And for advertising there were five."

"A. Seventy-three and five."

"Q. And on a private line twenty-seven."

"A. I they-I thought they were included in the total number

of instruments."

"Q. No, the total number of instruments were those that were being rented and that there were left on subscribers' premises twenty-six. I will give you the total, Mr. Lyndon, without your having to—

"A. I want to see just how far the data here of property and equip-

ment show these instruments."

"Q. And the reserve in stock was 842, making a total of 1,647 instruments furnished by the American Telephone & Telegraph Company that has not been included by you in this set-up?"

"A. How many?"

"Q. 1,647?"
"A. Correct."

"Q. If that figure is correct, that would mean an addition, wouldn't it?

"A. It would unquestionably. If there is anything that has been

left out, why-"

"Q. Now, pardon me, Mr. Lyndon."

"A. (Continuing:) If there is anything that has been left out why it should go in. There is no intent at all to omit any computation that you ought to have and then a little."

"Q. Now, Mr. Lyndon, you have great respect for the Wisconsin

Commission, haven't you?"

"A. I have."

"Q. Did you know that they allowed the full 41/2 per cent?"

"A. When?"
"Q. In 1916?"

"A. I did not know that. Before coming to a conclusion about it, I would like to read the case and see what mental operation cause I that allowance by the Wisconsin Commission. I have always had considerable respect for it. I hope not to have occasion to lose at of it."

2321 Mr. D. A. Frank: Would you object to my reading just a little? The Commission says this:

In some investigations which have been conducted, investigators seem to have lost sight of the fact that the furnishing of the instrument parts is not only valuable services supplied to the associated company. In other words, there seems to have been an assumption that the agreement would necessarily be unreasonable because of the control of the associated companies by the American Company. In cases where investigators have failed to consider services other than the furnishing of instrument parts, we think that it is clear that they may not have made sufficient allowance for reasonable payment for services rendered. In other cases where reduction has been recommended, the facts submitted as a basis for such reduction are

rather meager. The assumption not only of the complainant in this case, but of some of those who have investigated the four and a half agreement seems to have been that any agreement of

this kind must be unreasonable because of the relation existing between the American Telephone & Telegraph Company and its associated companies. Now, notice this, Mr. Lyndon, it is our opinion that the ownership of the companies comprising the Bell System does not in itself prove the unreasonableness of any inter-corporate agreement which they have. However, any excessive charge which may be made to the Wisconsin Company by the American Company leaves their effect upon the rates of the Wisconsin Company and it becomes necessary not to prejudge the case, but to investigate the agreement in the light of all of the available facts to determine first whether or not it is unreasonable and second, the extent of any unreasonableness that may be found." Then they go on and approve the payment.

"Q. Now, did you know the Maryland Commission, the Colorado Commission, the Washington Commission, the Pennsylvania Commission, the New Jersey Commission, Louisiana Commission, and the Kansas Commission, the Alabama Commission and the Michigan Commission have and all of them with the exception of the Louisiana Commission, within the last seven years approved this relation?"

2323 Mr. Lyndon:

"A. I did not know that, Mr. Frank. I would be equally interested to know where it had not been sustained. If we had the ability to go into this with the same thoroughness, we might be able to cite a series of places where it has not been allowed. I judge that it has not been uniformly allowed every where; there has been some people, some Commissions and Courts that have not.

"Q. Well, what Commission has not allowed it?"

"A. I say if we had the ability to prepare this case, with the same thoroughness, we would probably be able to—

"Q. I think it is as reasonable as some of the other assumptions

that you have made?"

"A. I think it is as reasonable as some of the propositions. Isn't it reasonable to think you will find reasonable people somewhere."

Let me say, Mr. Frank, that is my belief that whatever is furnished to the Southwestern Company, or to the Houston Company by the American Telephone & Telegraph Company should be paid

2324 for in some reasonable rate, or on some reasonable basis, and it does not strike me that the services such as are rendered are properly fixed by a percentage on gross returns. I recognize that that was probably a mere convenience, but there should be a very definite showing of the money value that is received and that amount of money should be paid.

Supposing the Southwestern instead of getting \$42,000.00 services here was getting \$300,000.00 services here the arrangement would be an advantage and manifestly unfair. No company has the right to take \$300,000.00 worth of services and pay \$200,000.00 for it.

But, if the American Company is willing to take that from the Southwestern Company as to whether or not there is any reason why the Southwestern Company should not avail itself of the opportunity, I would say as a corporation, it possibly would, but my view is, whatever services rendered should be paid for on a just and adequate basis. Now, I have been unable to find anything that this four and a half per cent covers, outside, of the very tangible apparatus which it furnishes, and which we try and make a conservative allowance for, except the engineering. I do not know that any services are performed in an accounting way that would be required if this were

an independent plant and not associated with all the other 2325 plants and not associated with all the other long distance plants and toll services, and it is further my view that accounting is necessary to properly distribute the profits, it is a system of necessity and convenience for that purpose and not prop-

erly applicable to the Houston local public.

"Q. How could that be possible that they would have to have a form of bookkeeping to properly distribute the profits, and all they would have to do would be to pay a dividend and cash the check to

get the profits properly distributed, wouldn't they?'

"A. Well, that might be in a measure true, but there is a great deal of accounting which must be done by reason of a number of companies associated together, which is not done by an individual company. I understand, that the accounting force is sufficient to take care of the local business, if this were a strictly local company."

I do not believe that they need any assistance at all from the Gen-

eral Staff in accounting due to local traffic here.

As to whether or not they need any assistance in engineering, I think that every corporation needs certain engineering advice occasionally. The frequency and its amount depending upon largely

the character of the plant, and on the character of the local engineer in charge, or rather the ability of the local

engineer.

"Q. You see we are considering say, \$14,000.00 for the rental and maintenance of these parts, furnished by the American Telephone and Telegraph Company. There remains about twenty-eight or thirty thousand dollars for some sort of service, around \$2,500.00 a month. That is, take it on your basis or take it on our basis and what you do allow, take it on the basis of the instrument value put on there by Mr. Pennell who is Chief Engineer of this Company and he valuated it at \$1.10 per station as compared with your 48 cents."

"A. Well, in that case we would have twenty-seven or twenty-

eight dollars a year, as the rentals.

"Q. Twenty-eight. Wouldn't you have sixteen hundred and something added to twenty-seven thousand, would be twenty-nine thousand and something."

"A. Well, say \$12,000.00 would be—\$43,528.00 and from that \$12,000.00 will leave \$31,000.00 for these intangible services."

I don't know how tangible they are. Take patents alone, if some patents that should be made this coming year would not be used by

the local concern, why, they might tax us \$1,000.00 a month on these patents.

If it is worth \$1,000 a month for the prospective possibility of a patent in a well developed art, which patent would be absolutely essential to the welfare of the company. That is the only thing to consider. But the possibility of any such patents and limited to the production of the general staff, to my mind. is extremely remote. The Independent telephone interests fellows tell me that the real progress has been made by the telephone people. in the independent telephone manufacture. They say all the progress has been made by them. I did not investigate and find out exactly whether or not that is true. It would require possibly a year's study of all the details of telephone operations, who the patentees were, how fundamental they were, and all the rest of it to come to any conclusion about that. I did not make it as a statement of my own. I made it as a statement I have heard reiterated at different points from different independent telephone men. I do not know whether that is true or not, I have a belief that it is partly true and that the competition which they developed was instrumental in enlivening the general staff to produce whatever it might I do know this, that at the present time the independent companies are able to obtain apparatus which enables them to operate at as low cost as the Bell Company, and in the most cases, lower cost and give equally good service; I know that to be true.

There is no independent telephnoe company that gives service from New York to San Francisco, but we are dealing with a

2328 local situation here.

I feel that at the present time in a telephone case that seven per cent is a fair rate of return. My report in the Street Railway case shows that seven per cent was my recommendation to the Council for the present time.

"Q. On page 580 of your testimony in the street car case this question and the following answer were given by you: "Q. You say you have figured in there a return of eight per cent? Why did you "A. It has been a customary allowance by Commissions, and it is also my own view that that is a reasonable rate of earning for a public utility. "Q. How did that compare with the interest rate in the community during the period?" "A. I understand that the interest rate in this section, is approximately eight per cent." That is it has been?" "A. Yes."

'A. I think there is some more testimony."

"Q. Is that correct, Mr. Lyndon?"

"A. I think there is some more testimony there."

"Q. Well, is that much of it correct?"
"A. That much of it is correct, a reasonable—it is unreasonable to continue this return over normal periods."

Mr. J. D. Frank: From 1896 to 1919.

"Q. Where—when did you testify to that?"

"A. That was in December or January. I don't know which."

2329 "Q. December or January, 1920?"

"A. But there is on record somewhere in the testimony, that I regard seven per cent as sufficient for the present conditions.

"Q. Well, why did you say eight per cent?"

"A. Well, the context and what precedes that may explain it." "Q. What did the Master find in that case, Mr. Lyndon?"
"A. He found eight per cent."

"Q. And you still want to say that seven per cent is fair for a finding in accordance with your testimony that eight per cent was fair."

"A. It was not in accordance with my testimony at all."

"Q. The Master says this, on page 11, of his printed report: "All of the witnesses in the case use eight per cent as a fair rate of return. They all agree that the operation of a Street Railway property is attended with risks that do not attach to the ordinary security and that the greater the risk the greater the return rules should apply." Now, is that correct? Look at it and see if that is correct. On page 11 down at the bottom there on the page?"

"A. Yes."

"Q. That is the Master's report in the Street Railway, is it?"

"A. Yes, testimony stands here plainly that I have always considered eight per cent as a proper return, but you will find somewhere that I stated that seven per cent was a sufficient return, but you will find somewhere that I stated that seven per cent was a sufficient return under the present abnormal conditions.

As to whether or not the Master did me an injustice in saying that all the witnesses found eight per cent, I agree that the eight per cent was a standard and usual thing so that it was not totally an injustice, but it was not indicative of all that I had said.

As to whether or not eight per cent is a fair return or not I will give you the same answer here, under ordinary conditions. It is my idea and always has been that a part of the burden should be

carried by the utilities.

As to whether or not in an abnormal period like this it is very difficult for a corporation to get money, that is, more than it is in normal times and that they have to pay more for it, I have been recently informed that utilities have to pay more for money now than they used to have to pay for it. The decisions of all the Commissions that I know of, are that the rate must be sufficient to attract the capital. It does not take a commission to determine that. If you don't attract capital, you don't get the utility, that is all. I do not know, but I doubt if you could sell any public utility stock in the city of Houston at six per cent; I do not know if you

2331 could sell it at eight per cent, and have no idea if you could sell it at ten per cent. I judge that you could. It would be my judgment that any public utility that was well founded and making a profit, that you could sell the stock at ten per cent, provided, of course that the limitations of earning was not such that the stock could never pay ten per cent.

Supposing that I was just like the street car company here or any other public utility, I could not do anything but hazard a guess as to how much stock I could sell at ten per cent. It would not be anything that would mean anything at all, and I might guess definitely now, and two days after discussing it with people around town, I might make another guess.

"Q. Three of the leading bankers of the city of Houston got on the stand and swore that you couldn't sell over a million dollars stock of the Telephone Company in this town, even if you were offering as much as ten per cent. Does that sound reasonable?"

"A. I don't know, I don't know whether they know anything

about it either."

They are in the business of selling certain kinds of paper, and it may be that that very business blinds them to the fact that the public is ready to buy something else, I don't know. When they tried to sell stock and met with a rebuff of the public that would be a pretty good indication of what the public would do, and that would be an education, if they ever made any such attempt. Very few banks are constantly floating securities and trying to sell them. For instance, the Texas Company, if the Texas Company should want to sell \$50,000,000.00 worth of stock or bonds I doubt that some of them would be floated in the home town of the Texas Company here in Houston; it would be my opinion without knowledge, of course, that they would have that entire issue underwritten by some New York or Chicago house. would not necessarily in get local banks to underwrite it. might trade it around among a few of the banks in New York, and market the securities. For instance if it was an issue of \$5,000,000.00, that would be larger than any one bank would handle. It would be an underwriting syndicate, I should judge, for an amount of that magnitude.

The final figures that I give as the value of the telephone property in the city of Houston is the net value of the depreciable property, \$2,745,248.00; supplies and working capital, \$100,000.00.

I think the supplies and working capital that I allowed in the street car case was \$100,000.00 working capital and forty or fifty thousand dollars' worth of supplies. I don't recall that it was something over two hundred thousand dollars. I remember the

working capital was \$100,000.00. I think the \$200,000.00 the Master allowed was working capital and stores and supplies. We have the record here I don't know, but we can look and see. On page 7 of his printed report where he gives working capital \$200,000.00, it is my belief that that includes stores and supplies. It is frequently put together, for instance, the telephone company groups them, I think \$165,000.00 is the telephone company's own estimate of its working capital, stores and supplies, as I remember it.

"Q. Now, the telephone company is a little bit larger corporation here than the Street Railway Company?"

"A. You see I have made estimates on both of these properties and we—

"Q. (Interrupting.) Well, haven't we got more working capital than the Street Railway Company has? Didn't you testify in that case that the Street car Company got their money in advance every day and had their money in the bank every night for the day's operations.

"A. Yes."

"Q. And the telephone company gets its money-

"A. (Interrupting.) In advance."

"Q. (Continuing:) From twenty to forty days after the service

is performed?"

A. No, the telephone company sends out its bills on the first of the month. There is undoubtedly a number of the subscribers that pay by the fifth; of course, a larger number that pay by the tenth; and there are some that defer it until the last minute, of course."

"Q. But, will the time ever come, Mr. Lyndon, when somebody doesn't owe us for services rendered?"

"A. I think not."

"Q. And how does that compare with the Street Railway? Does anybody ever owe them for services performed?"

"A. None of the public that patronizes the lines"

"Q. And the Street Railway Company, then with their money collected in advance all the time and having nobody owing them and having no outstanding accounts, were allowed by you \$100,000.00 working capital and that is what you think we ought to be allowed?"

"A. Yes, you see the Street Railway Company have much heavier expenditures than the telephone company. Their expenses in 1919

as I recall were \$1,400,000.00."

"Q. Well, they don't have to wait to make any collections at all, they get their collections every night don't they?"
"A. Yes." 2335

"Q. And they even get some of this money in advance, by selling of tickets don't they?"

"A. I don't think so.'

"Q. Well, on page 489, of the record in the Street Railway case, I find this question asked you: Mr. Tucker says that Mr. Howard asked you, I guess it is direct: "Well, does that rule obtain in relation to the traffic company? A. No, it is the only utility I know of in which it does not obtain. The street Railway obtains its money in part each day. Q. Doesn't have to wait for any collections to pay off and even gets its money in advance? A. Yes, for tickets, where they sell tickets. A. And, at any rate gets actual cash at the time they perform the services? A. Yes. That is your testimony?"

"A. Exactly for tickets, where they sell tickets. They don't

sell tickets here."

"Q. Oh, they don't sell tickets here, so that was just thrown in

to amuse the Street Railway Company?"

"A. No, I had made a suggestion that the fare be raised and that one changed in which a proper income could be received without too greatly augmenting the fare, was by making the cash fare high and the ticket fare low, and selling tickets in advance. It was on the assumption that that general scheme might be used and, 2336 therefore, it was pertinent in that reply."

(By Mr. Howard:)

"Q. They contemplate some such plan now, don't they?"

"A. They do, and I feel very sure it will be inaugurated before long, but not now, it is not done."

"Q. Go ahead with your final figures on cost value. I want to

see where it comes out?"

"A. \$100,000.00 for working capital and stores and supplies and \$75,000.00 as the cost of establishing business, making \$2,920. 200.00 practically \$3,000,000.00."

"Q. You put in about \$800,000.00 in the Street Railway Company

property for "going value," didn't you?"

"A. Oh, more than that. It was nearer a million dollars, if I remember correctly."

"Q. Nearly a million dollars, you think they had a million dollars

of "going value" and that we have got \$75,000.00?"

"A. On my definition of "going value" that is true. This is fair that they have about a million dollars, while I can only set up about thirty-four or thirty-five thousand dollars for the telephone company."

"Q. How did you check that? Where did you find that?"

"A. I went back at the beginning of the statistics that I had in

the 1918 report."

"Q. Just tell us what page it is on, or just tell us what it was, Mr. Lyndon, you needn't get the exact details of it?" 2337 "A. The records of the company shows a period of years

in which there were no developments-

"Q. (Interrupting.) Well, this is not "going value" in the sense that we understand it, but it is under your theory that deficits-

"A. Yes."

"Q. And the million dollars that you allowed the Street Railway Company were a million dollars off deficits?"

"A. Actual deficits."

"Q. That is the company—you fund out by examining the records back to 1898, that the company had lost a million dollars and you

just added it to the valuation of the plant?"

"A. Yes, and in it—not a dollar of "going value" other than that, was added by me or by any other person, either for the company or by the city. Nor was any value other than that considered by the Master, as I remember the Master's decision, which I read a few days ago."

"Q. Will you tell us what the total of your cost value is, that you

are standing on in this case?"

"A. Well, this is the total of the depreciable values."

"Q. Well, that is all right."
"A. That is \$2,920,000.00, \$2,920,248.00. Now, the cost value is \$918,000 more than that, because that is the amount that has been deducted for depreciation."

2338 "Q. But you are going to add that \$918,000.00?"

"A. No, there was an amount of money which after \$918,-000.00 had been subtracted from it, left the \$2,745,000.00 that is the original cost value of the property, of the depreciable property alone, was \$3,663,432.00."

(By the Master:)

"Q. What exhibit are you reading from?"

"A. This is Exhibit No. 2 Page 1. And adding to that \$100,-000.00 the working capital and \$75,000.00 the cost of establishing business, the total cost value is \$3,838,432.00, that is new undepreciated property. Deducting the accrued depreciation of \$918,000.00 from that—it is \$913,100.00, but we will simply call it \$913,000.00 is about \$2,920,248,00?"

(By Mr. D. A. Frank:)

"Q. Now, what do you call the \$2,920,048?"

"A. That is the present value of the property?"

"Q. So you don't agree with any engineer that has testified in the case as to what the fair present value of the property is?"

"A. If they differ from that figure, I don't. Of course, you understand that it is the book cost adjusted less depreciation, no reproduction value has been considered."

"Q. You have not considered the reproduction value?"

"A. No."

"Q. But just figured \$2,920,048.00?"

"A. Right from the books, from the company's books."

2339 (By Mr. Howard:)

"Q. Mr. Lyndon, by taking the reproduction value of the company, even accepting that, you get, of course, another figure?"

"A. Oh, that would be another amount, and a considerably higher amount unquestionably."

(By Mr. D. A. Frank:)

"Q. This makes no pretense of being the present dat- reproduction cost?

"A. No."

"Q. And this does not even pretend to be what the books show the cost of the property is?"

"A. It does not, in so far, as the seven or eight hundred thousand dollars intangible amount."

"Q. Well, how about that intangible amount?"

"A. That is not included?"

Mr. Howard: Let him finish.

Mr. Frank: Go ahead.

"A. (Continuing:) That is not included and their \$165,000.00 which the company sets up as materials and supplies on hand and working capital and we regard \$100,000.00"Q. (Interrupting.) Although there was \$200,000.00 allowed in

the Street car case?'

"A. Yes, you see there was \$5,000,000.00 of property and practically double the operating expenses per annum for it, that you have here."

2340 "Q. Go ahead."

"A. This \$200,000,00 allowed in the Street Railway case, its proportion to the value of the property and the annual operating "Q. In spite of the fact, all of their money in this way — go ahead." expenses is less than \$100,000.00 for the telephone company."

Mr. Howard: Mr. Frank, I would like for you, if you don't mind to get in the record briefly, Mr. Lyndon, where that figure you set up varies from the books.

"Q. Go shead."

"A. So that instead of \$165,000.00 which appears on the books, I have taken \$65,000.00 less, \$100,000.00. The difference from the

"Q. (Interrupting.) Where does that appear on the books, Mr.

Lyndon, you say it appears on the books?"

A. Well, it appears on the document sent me by the accountants, as having come from the company's books."

"Q. It came from the company's Exhibit. That was a figure used

in 1917. The figure now is \$238,000.00."

"A. I will give you the amounts which appear on the company's books, as far as I have been able to determine them, from what the accountants sent me January, 1918 \$4,519,040.00."
"Q. January 1918?"

"A. January, 1918, or December 31st. I just take Janu-2341 ary to throw it over to January, 1918, one day's difference. The additions in 1918 were \$111,960.00. Therefore in January 1919 the property as shown by the books had come to \$4,631,000.00. The additions in 1918, as shown by the books cost, \$237,600.00. Therefore in January 1920 the book cost of the property was \$4,868,-800.00."

"Q. Now, was that without any working capital at all, wasn't it?"

"A. No, that included \$165,000.00 working capital." "Q. Now, what was the last figure Mr. Lyndon?"

"A. For January 1920?"

"Q. Yes, the total cost as shown by the books?"

"A. \$4,868,800.00, now that is obtained by taking the book cost 1915-1918 and adding the book cost of net additions for two years subsequent thereto. Now if the book cost of additions are greater than this cost figure—these last figures must tally with the books."

"Q. Have you finished your statement, Mr. Lyndon?"

"A. Not quite. Now, those are the gross amounts as shown by the company's books with the additions given as coming from the company's books as correct for those two years. Now, they include the following: Complete toll equipment; \$723,000.00 loss on Hous-

ton Home purchase; \$165,000.00, working capital \$268,-000.00 of aerial wire; \$11,400.00 of office furniture and fix-2342 tures allocated to Central office abd district offices, that is, in 1918, \$4,676.00 right of way. Those amounts are included in that complete figure of 1918, and, therefore, continue in for 1919 and 1920."

"Q. And all excluded by you?"

"A. No. Now, for approximate real values, the following corrections should be made: deduct the \$723,000.00 loss on the Houston Home Company."

"Q. Although Mr. Kelsey says it ought to be put in?"

"A. I don't care who says so, President Wilson or the Cabinet or anybody."

(By Mr. Howard:)

"Q. Mr. Lyndon, I would like to get those deductions there in consecutive order and continual order and then Mr. Frank, will you do

'nat and then question him about that?"

"A. (Continuing:) The first deduction is \$723,000.00 for the Houston Home purchase; the second deduction is \$65,000 from the \$165,000.00, leaving the working capital \$100,000.00 net. The third deduction-

"Q. (Interrupting.) That includes supplies?"

The third deduction is \$132,000.00 from the \$268,-000.00 of aerial wire as set up in the company's books, because in accordance with the company's own statement, which we had in 1917, that amount of wire was not there." 2343

"Q. You don't know what is there now?" "A. What is there now, we have taken as the amount there

in 1917, plus the net additions for 1918 and 1919."

"Q. In other words, whenever you can find a figure that is lower on reproduction, why use it?"

"A. No."

"Q. Go ahead."

"A. Whenever we find a figure that has any representation in physical plant, we find it impossible to apply it.

"Q. Can you imagine how that came about, Mr. Lyndon?"

"A. I really don't."

"Q. What would you say?"

"A. I really can't imagine how that would come about, that there was \$268,000.00 set up on the books and less than half of that amount of actual property, which we did not say it was less that half

the amount, but the Bell Company says it."

"Q. But you got it in that 1914 inventory and the 1914 inventory showed a number of other kinds of plants that were such in excess and the wire plant, the books were over the inventory and wasn't the explanation made to you at the time, that it came through attempt-

ing to get up the oooks several years before and arbitrary 2344 allocations made to Houston and that probably that was the cause of the books showing a greater quantity of wire then was actually used here and probably showed less of cable?"

"A. It might have been."

"Q. So that you take advantage of it to cut out \$100,000.00 of \$200,000.00 worth of our property without giving us credit for the

greater amount of cables that is shown here."

"A. The final figures are not based on 1914. These figures here, are the last figures taken from the company's books and go down to and include 1917. Now, that—now, these were taken right there—

"Q. (Interrupting.) Yes, were based on 1914?"

"A. No, we haven't done a thing-

"Q. (Interrupting.) As far as aerial wire, where did you get any figure on aerial wire, except in Houston,—1914."

"A. Oh, our figures in 1917 in the 1918 report-

"Q. (Interrupting.) All came from the 1914 inventory as far

as aerial wire is concerned, of course."

"A. I don't know that is true, but how would that make a difference? The whole of 1914, was priced on the actual inventory. If that is true, it wouldn't make any difference what sort of set-up had been made in the books."

"Q. Now, let's see, Mr. Lyndon, suppose in 1914 you had 2345 taken the aerial wire and the aerial cable from the inventory or taken the aerial wire and the aerial cable from the books, you would have got the figures for the sum of the two that was com-

parable, wouldn't you?"

"A. Yes."

"Q. But what you did was to take the aerial which the inventory showed was not in the plant, but you did not take the aerial cables which the inventory showed—of which the inventory showed there was an excess in the plant?"

"A. We had to-

"Q. (Interrupting.) Now, isn't that true?"

"A. No, it was—the 1914 report was a reproduction value."

"Q. Yes."

"A. (Continuing:) And regardless what the company had set up on its books as cost, the inventory would have corrected it, because we used the company's inventory and we used prices which, whether adequate or not, we had every reason to regard as adequate and those prices gave us certain values. Now, that was a reproduction value."

That was a reproduction value of those units that I testified about yesterday. So it was impossible for us to transfer, to take 1914, our valuation as the starting point, and then go from there on with the

books. We would have a mixed sort of valuation. That isn't what I did with the aerial wire; we took the book value of the aerial wire,—we took the inventory of the aerial wire,—we took the inventory of the aerial wire.

"Q. Yes, why couldn't you have taken the inventory value of the aerial wire, much greater than the books were?"

((A Deer that show so in any 1014 severt 9?)

"A. Does that show so in our 1914 report?"

"Q. I think so."

"A. Well, if it does, you certainly are entitled to it and in order that there might be no mystery about this thing we have taken the full book value and shown the specific deductions. Now, all this amount of money, there is \$132,000.00 that we put down as a deduction as which we thought ought to be made for aerial wire. the statements that you make are borne out, then there should be some possible credit on aerial cables."

With reference to the difference between our books and our findings, then, the next item is to deduct the \$11,400.00 office furniture and fixtures allocated. We should deduct that because, as we under-

stand it is not here in Houston.

"Q. Well, suppose it is there in Houston, now, Mr. J. D. Frank here is General Attorney and fourteen per cent is applied to the Houston Exchange, nearly one hundred per cent has been applied for the last three months, but if fourteen per cent of the time is applied to the Houston Exchange, ought not fourteen per cent of his office furniture and fixtures be applied to Hous-

ton?"

"A. As a general thing it might be so and there is another consideration, if the Southwestern Telephone & Telegraph Company did not exist at all and all the purchases and all the accounting and all the auditing and the entire executive staff of this company were followed up and was as it should be, how much more furniture than they have, would they need?"

"Q. Don't you know they would have at least five times as much

as they have allocated here in this set up?"

"A. This office furniture, these desks and tables and chairs and even in this era of high prices n-arly \$5,000.00 buys a great many

of them."

"Q. Well, if they have an organization here of executives, including a president or vice president and somebody to correspond with the General Manager and the various departments that are necessary to run a big plant like this one, don't you know it would cost considerably more in office space and furniture and fixtures than is allocated to the City of Houston in the present set up?"

"A. If this were a local company trying its best to make a dividend I don't believe it would have as many high paid officials on its payroll as \$11,000.00 of set up furniture would equip,

I don't think."

That is just an opinion. It is a question on which there may be some differences unquestionably, but it does not seem to me that with the staff that is maintained here and must be maintained here, and which requires only \$8,000.00 worth of furniture to take care of, that to put in \$11,400.00 was for, as a capital asset against this company, that is not within the shooting range of Houston and take the view that much would be required for an Executive Staff, competent to manage this plant independently hardly seems to my mind a justifiable conclusion.

I do not know that this company could save a great deal of mon-y by dividing up the State of Texas into a number of local exchanges like the City of Houston, and putting local organizations in to manage one of them locally instead of having a central organization at Dallas. If all the conditions are as they are indicated here, it

might, or might not be true. There is this about it. salaries paid might more than offset the interest in depreciation on \$11,000.00 worth of furniture, which simply to my mind does not appear to be a reasonable thing.

'Q. You just wasn't used to an organization that have a general

expense of this kind?"

"A. Yes, I think so; I think so."

"Q. Well, what experience have you had with corporations with much general expense?" 2349

Well, I was there some at the Edison Works."

The Edison Works is a local concern in that they operate in West Orange and they have the cement work eighteen miles away and they have other works four miles away. It is not going a thousand miles away, nothing except district offices, no manufactory.

\$12,000,00 was one item which I regarded as an amount in excess of what should be charged. Now, then the total of those items is \$936,000.00. Now, added to that or subtracted from that the cost of establishing business, \$75,000.00 left a total deduction \$861,-Now, if those deductions be made from the gross book values, we find as the corrected values that without depreciation, January 1918, \$3,658,000.00, January 1919, \$3,770,000.00, January 1920, \$4,700,000.00. Now, these are all about \$160,000.00 high, due to the fact that instead of taking the real estate at its cost, plus the change in value, plus and minus change in value, we took the real estate at the book value and at the book value at that time which was \$35,000.00 more, just to stick to the book values. Also, we have taken the deductions for the Houston Home Telephone Company at the amount of the set up, at the amount of the set up by the Southwestern Telephone & Telegraph Company of \$723,000.00,

when as a matter of fact, it was more than that. When you take the depreciated values at which they were put in, that accounts for the apparent descrepancy of \$160,000.00, between these figures and the figures in Exhibit No. 2, but they are close enough for practical purposes of computation. Now, the deduction for accrued depreciation, for depreciation to January 1918 was \$750,-

Now, deducting that from January 1918 values there remained as the net value of the plant, January, 1918, \$2,980,000.00.

"Q. Do you doubt, Mr. Lyndon, that the books-that the book entries of \$4,810,385.40 as put in Scott's Exhibit No. 10, and that was only up to October 1st 1919, I believe the figures you have are \$4,858,000.00."

"A. Yes."

It is my opinion that the books represent, and it is my opinion that the books should represent or show the actual cash expended in the City of Houston for all property work, overhead and every other This figure of actual cash expended is the money; minimum or maximum. It is the money spent. There is no minimum or maximum to a fixed absolute unchangeable amount.

Supposing that there were quite a number of expenses such as

interest during construction, engineering and general ex-2351 pense, that prior to 1908 and 1910 were not charged in the books then the company actually spent money for those It is true that if they were not charged on the books it would be out of the company's treasury, but would not be reflected in the books; anything that the company pays that were not written on the books means that the books show that much less assets than the company should have; there is no doubt about that, but if they were paid out of operations and charged to operation, then were taken care of in that amount. I understand that the reason these things are true is there has been quite an advance of art in bookkeeping in the last ten or fifteen years for public utilities particularly, and it is my understanding that the telephone company in common with other utilities has been trying to improve its bookkeeping,-trying to get more nearly in accordance with the facts, but it was never my understanding that the books would reflect less than the amount of money paid out, because money has to be accounted for. As to whether or not it might be accounted for on the company's books in the general office and still not be allocated to Houston, I doubt if an expenditure actually incurred in Houston would be omitted. see no reason why it should be. I mean intentionally omitted, of course, there are errors in keeping books. 2352

"Q. Well, suppose in 1905, just to suppose a case, there had been \$50,000.00 of construction put in the sub-station and that a fair engineering charge on that would be five per cent or \$2,500.00, and that under the system of keeping books at that time, nothing was put in at Houston, than the books at Houston would only show \$50,000.00, whereas it ought to show \$52,500.00,

isn't that possible?"

"A. What the fair engineering charge to my mind would be

would have nothing to do with it.

The actual engineering charge would be whatever it is, if it should be \$2,000.00 or \$3,000.00.

"Q. Well, say it is an actual engineering charge, and they failed

to put it on the books."

"A. Well, in several rate cases the question came up, we did not incur this engineering charge, but it would be fair to incur it."

"Q. We don't say that."

"A. I just want to say that, that the failure to incur it has probably been a burden on the public ever since because the thing is

not properly engineered."

"Q. In 1914 inventory, there were probably a few items where the inventory was more than the books, for instance, the central office equipment was \$8,000,00 more than the books, the aerial cable was \$34,000.00 more than the books, the underground

conduits was \$38,000.00 more than the books and the under-2353 ground cables \$52,000.00 more than the books. Now, if you are going to take the inventory as the starting point, why those figures should be used instead of using the books, oughtn't they."

"A. No, the books ought to show the two costs." "Q. But, they don't do they, Mr. Lyndon?"

"A. But the inventory there is a reproduction value. It simply showed as far as we were able to—

"Q. (Interrupting.) Well, the wire was a reproduction figure too,

wasn't it."

"A. Yes, every figure in there was a reproduction. In the 1914 report every figure in there is a reproduction figure. Now, they were the best figures, which we as engineers for a municipality that wasn't going to build any plant and everybody knew it, they were the best figures we were able to get."

"Q. Well, the figures that you use today are the reproduction

figures of 1914, aren't they?"

"A. No."

"Q. Well, what is it."

"A. The figures as shown by the books of the company."

"Q. Less the difference between your inventory and the book

figures in 1914?"

"A. Not less anything—oh, less the difference between the amount of wire in the unit prices they are not concerned now. The amount of wire on hand in 1914 did not correspond with the books, it was not there, the inventory showed it was not there."

"Q. But the inventory did show there were other items of plant there that were greater than the books showed and you didn't take

those into consideration?"

"A. There were other items which under the reproduction cost at the prices we were able to get showed a greater amount of money necessary unquestionably. But, we did not at that time, it is a subject, of course worthy of consideration, but I am not sure it is true now regarding the difference as accruing from the fact that less wire had been charged or rather more wire had been charged on the books than existed and less of cable and central office equipment. There is no rational explanation of that."

"Q. The difference between the books on aerial wire, there has been just about as much one way as the difference on other parts

of the plant was the other?"

"A. I don't remember about that. If you have looked it up and

that was the case, why, of course, it is.'

"Q. Well, coming down to the final figures, you take a figure less than three million dollars after you have adjusted it as being what you consider the adjusted present value, if I get your terminology——

"A. Less depreciation."

2355 "Q. Less depreciation as compared with an investment of the company of four million, nearly \$900,000.00 in the City of Houston."

"A. Some of that is not investment as we see it."

Mr. Howard: He has just gone all over that.

"Q. Can't you see my terminology well enough at least to say, our book entry is \$4,900,000.00, and that your finding is something—almost \$2,000,000.00 less than our book figures?"

"A. It is around a \$1,800,000.00 total and your book figures for all your expenditures new-

'Q. (Interrupting.) Yes, four million and nearly \$9,000,000.00.

"A. \$4,868,000.00."

"Q. Now, of course, if the plant has any value at all as a 'going concern', why that would have to be added to whatever the book

"A. Oh, certainly."

"Q. Now, I think we understand what your figures are now, Mr. Lyndon. Just why did you take six per cent with the telephone company instead of taking eight per cent, why didn't you set up at least one combination of eight per cent? Have you anything else to say except what you have already said about utilities bearing their part of the burden?"

"A. Nothing else."
"Q. Well, there is no reason to go into it then, if you 2356

haven't anything else."

"A. I have nothing else to say. That six per cent was set up as a figure, as a tentative figure, to see just what the result would be. Now, it is not a statement on my part at all that six per cent is the limit of the amount which a public utility should receive."

"Q. If you set up eight per cent, it would be considerably more,

wouldn't it?"

"A. It would be 33 1/3% more." "Q. It would be 33 1/3% more?"

"A. It was a tentative figure, to see just about where-

"Q. (Interrupting.) That is the gross figures would be about

thirty three and a third per cent more?"

"A. (Continuing:) Well, it would carry—yes, the gross figure would be that. Well, now that would be the net return, so that the net figure would be thirty three and one third per cent more."

But I am very definitely on record in a large number of cases, that eight per cent is a proper rational return and under ordinary conditions, for any public utility, and that seven per cent is a proper return until we get away from this period of inflation of wages and every other cost that a utility and an individual now suffers. I do not think that every increase in price should be passed on to the

consumer, or to the user of your service and then a continu-

ous flat eight per cent be maintained.

I did not hear the testimony here that you would have to have five hundred thousand dollars of new money the coming year if you would take care of necessary improvements in the city of Houston, but I believe it to be the fact. I do not see why you should have to pay more than eight per cent for that money. I do not know of any place where you can get it for less than eight per cent; we borrowed some in December for four and a half. I do not know whether or not you can operate on borrowed money for permanent investment in plant; other utilities seem to borrow money.

"Q. Well, just set up a financial scheme, if you don't mind, just show us how we can run this utility here where we have got a big cost we claim of a little less than five million dollars, and we claim we have a valuation here of around seven million dollars, just tell us how we can go out and borrow money to run this utility for the

next year?"

"A. That I don't know. I would have to have a great deal more information about the financial condition of your company than I now have to form any definite idea, but I have always been under the impression that a solvent corporation, particularly one that is under rate regulations, is allowed to earn a reasonable return

on the investment, as decided-and was solvent, could go out

and borrow money for needed improvements.

For the last four years for a part of the time you have been earning a reasonable return here and part of the time you have The part of the time that you have was the twelve months that the government had the lines. I do not know whether or not it earned it here, or whether it came out of the Bell properties somewhere else. I did not make an analysis of it, including that return that you received from the Government because it was no way to come to any conclusion about either the then existing rates or the future rates because that was a sporadic thing that was listed in it and then taken out.

"Q. But your 1918 report shows on the basis that you have there, that for that year or the year just previous, the year that you considered that we lost \$118,000.00 that is, the \$118,000.00 less than a fair return on the basis of six per cent or six and a half per cent, which was it you used?"

"A. Well, as well as I remember it was \$102,000.00 and I predicted that in the next succeeding year, you would be under about twelve or fourteen, maybe sixteen thousand dollars more net expense than you had been for the period on which we had reported, but it was over \$100,000,00."

It was over one hundred thousand dollars and that was on 2359 the basis of seven per cent. On the basis of eight per cent there would be twenty-four to thirty thousand dollars more added to the figure that I found there as a loss and it would be about one It would be about that if you hundred thirty thousand dollars. omitted totally the Government intervention. Just take it on five and two and it would be rational,-it would be roughly that, I think without making the computation, unquestionably a loss of over \$100,000.00. I don't know it to be true that in view of the increased cost of all classes of labor at the same rate that you would be losing considerably more at the present time that you did in 1918, but I regard it as probable; it sounds reasonable at any rate.

"Q. As I understand from your set up there, that where you find \$136,000.00 actual depreciation that was what you consider from a financial standpoint that the property was worth each year, worth less than that I mean, that was the decrease?"

"A. For that particular year, that decrease may grow greater as

you add property."

"Q. Yes, now that has no connection with a set-up for reserve

for replacements such as we understand it?"

"A. None. The first thing the public is concerned with and must reimburse you for; the second, the public has no concern with at all, it is a matter of your own financial decision as to what you will do with your money."

"Q. Just a word with reference to the Federal Income Tax that was thrown out by you as being not a proper charge, in the local expenses in the City of Houston, it would have to be thrown out

everywhere else too, wouldn't it?

"A. Certainly."

"Q. Now, you allowed it to the Street Railway Company, didn't

vou?"

"A. No sir. No, that was definitely protested against. That is one thing that I have never been able to comprehend, why an individual must carry a burden on his net income but a corporation can escape it by passing it to the public. I don't regard it as—

"Q. (Interrupting.) Now, on page 956, of the record in the Street Railway case, speaking about this very fact, the question was asked: Q. So that you yourself would not bear any real war burden, if you could help it, is that a fact? A. Possibly not, with respect to producing of personal incomes. I might disburse some of that income to carry some part of the war burden, as a matter of fact I am doing it, and am compelled to do it under the income tax."

"Q. And this corporation is likewise compelled, isn't it, the question about that, you have seen the books, you know that we pay some income taxes? A. Yes, that is true, but these taxes have been regarded by me as a part of your expenditures and all of my figures are based on your net returns after you get all of these costs paid." Now, that is your testimony in the Street Rail-

way Company case, isn't it, beginning at the bottom of page 956?"
"A. Yes, but this statement is probably absolutely true that they were included, but not that I approved their inclusions, that they

were put in simply-

"Q. (Interrupting.) Well, you did not even include them once, did you?"

"A. I don't remember, I think they were included."

"Q. Now, if you did not include them-

"A. (Interrupting.) Now, let's see, a question of whether I have ever in my life included an income tax for any corporation is here; I never have. I don't remember why they were included in this set-up. There is evidently, there must be some explanation somewhere in this testimony about it."

"Q. Well, just analyze the fundamental question involved a little

bit, Mr. Lyndon. Just why do you exclude it?"

"A. Because the tax is on net income."

"Q. Yes."

"A. And every individual that has any net income must pay that tax and must carry the burden. It is part of what 2362 he must do after he makes his money and pays all of his expenses and I cannot understand why the same rule would not apply to a corporation."

(By Mr. Howard:)

"A. Well, Mr. Lyndon, net income has to be determined before the tax applies, doesn't it?"

Of course, that is what I meant to bring out. It is the net income before the tax is applied and then the tax is applied to net income and the purpose of the public is to pay you a return on the net income, and then the Government takes an income tax."

"Q. All right, let's see if it wouldn't be just as long as it is broad. Assuming that ten per cent would be a fair rate of return to a utility, if you can assume that?"

"A. Yes."

"Q. And that one per cent would be the income tax. If it took ten per cent dividends to attract money into the corporation, isn't it a fact, that the man who had the money, if he was going to pay the one per cent out of the ten per cent would get eleven per cent instead of ten per cent for his money before he would turn it loose to the corporation?"

"A. I don't say that at all, because one per cent will be deducted

from him, wherever he puts his money."

"Q. Does the stockholders get any credit on account of the fact that this had been paid by the corporation, that the taxes have been paid by the corporation, before his dividend was paid

"A. As I understand that, the fact that the money is collected at

the source, does not relieve him-

"Q. (Interrupting.) Is there any money collected at the source?"

"A. I don't know the laws on that. I have always been of the belief that when the Government collected on income tax, on in-

come, it was done with it."

"Q. Well, suppose a corporation with \$100,000.00 capital had, free of everything else, \$11,000.00 except it had not paid its income tax and that income tax amounted to ten per cent or what would be called by the Government net income. Now, that would produce \$1,000.00 net income as far as the stockholders were concerned, wouldn't it, I mean \$10,000.00?"

"A. Nine-tenths of one per cent would be that, but I see what you mean. Yes, that would be true, if the Government took a

thousand it would leave ten thousand."

"Q. Now, just what is the difference between the Government taking \$1,000.00 and calling it income tax and it taking \$1,000.00 and calling it property tax, how do you differentiate between them?"

"A. This, that the net income of any individual or corporation is a thing that the Government takes a certain amount from and it is a variable amount and it may ultimately disappear.

It has grown to the dimensions it has due to extraordinary conditions, though-no individual escapes it, and individuals do escape those other taxes."

"Q. Now, isn't that true of the advalorem tax, everything you

have just said?"

"A. No, there are many individuals who have considerable income and who are subject to practically no other taxes than the

income taxes,"

"Q. Are you awars of the fact that in this State there are no exemptions at all, that everything is taxes, personal, realty and every sort of property, except, of course, Geovernment bonds or City Securities?"

"A. There are men who are making from twenty to twenty-five thousand dollars a year and who have not got any other kind of

property?"

As I stated yesterday the figures that I have worked out there in my exhibit No. 2 means that the plant, according to my theory of the cost value, went down by the amount of \$156,000.00 a year. That figure is the amount that you would have to have to compensate you whether you put in replacement or whether you did not. That figure is meant to give you the money to provide replacement, provide for them when the time comes. Whether replacements are put in or whether they are not, has nothing to do with the fact that the property you have has diminished in value that much and you have to have that much money from some source to keep your investment at 100% of its value.

Suppose that you had a pole that cost \$10.00 to put down, according to my theory of it, if it is going to last ten years or 12½ years, a certain amount ought to be collected each year to take care of that. Of course, if the people that made out these life tables that I have used apply it to 100% of the property and not to the depreciable, it would cause an adjustment of those figures in itself.

If you have a switchboard that cost \$100,000.00 and you want to set aside a reserve for replacement, regardless of any valuation question, on the theory that the switchboard comes out on an average of ten years, and that when it does come out, there is a 40% salvage leaving 60%, it would cost in 10 years in order to be sure that we would set aside enough you would have to set aside \$6,000.00 a year

to take care of the depreciation on the switchboard, that is 2366 on the straight line theory, which is the one I would use. And the same thing would be true of every other item of property. It is true that if your experience shows that for a num-

property. It is true that if your experience shows that for a number of years, six or eight years, that you had a realized depreciation of around ninety or one hundred thousand dollars a year, you would know that you would need more money than that to take care of large items like switchboards that would come out later. The property that you would be replacing in 1918 would, I should think, be on an average of less than ten or twelve years old. Whatever it would be, it would be an aggregate of various lives, something you would replace would have had a short life and others would have had a long life. So that, the reserve for replacement which ought to be set aside now if the plant has been going continuously eight or ten years ought to be considerably larger per year than the near realized depreciation. In other words, the realized depreciation, if it could be taken on any one part would be merely a measure of depreciation of property that according to my theory might be

something like ten or twelve years old, might be older, and it might not be so old. Possibly it would not be less than eight years old, but it is probable that you have situations in which you can set poles that are subjected alternately to dry and wet conditions that they will not last five years. You do find that sometimes That would be individual poles and would not be of a general character. The average would be ten or twelve years and some might last longer. Public requirements and inadequacy would tend to bring the average down, would tend to limit the life of the poles in a plant of this kind. It would be around twelve or twelve and a half years I should say. A plant standing still that was completed and 2367 had not been added to for a number of years would tend to get into a cycle so that you could determine pretty well what amount would be necessary to set aside for reserve for replacement, but that would be after a very long period of time only. There are

amount would be necessary to set aside for reserve for replacement, certain portions of a telephone plant, in fact, of any utility, that are much more expensive than other portions and the life of those units when once ended cover a heavier expenditure during that portion of the cycle than other portions and you would have to go through a period in which you practically wipe out the original equipment in order to get a fair average of a plant that was stationary, but it would be somewhat indicative after say ten years. But a plant that has been growing as has the Houston plant, just assuming our off figures for the sake of argument, from about \$200,000.00 in 1901 to the book cost now of \$4,800,000.00, evidently your realized depreciation would be applicable on an average to a plant that was somewhere in the range of from eight to twenty years. So that if you took your realized depreciation by years and determined what percentage that bore to the cost of the property on a basis of six years, eight years, ten years and twelve years before, it might throw some light on what was the proper percentage to set aside as reserve for replacement,it would be indicative, but the whole subject would have to be analyzed to see whether too high or too low, it might be either. It would simply be indicative.

"Q. Mr. Lyndon, I show you a compilation made by Mr. Hoag.
These figures have already been introduced in evidence. The
paper which I hand you will be copied and introduced in
evidence as an exhibit in the case, in column 1, in the number of years, 1901 to 1919, in column 2, is what is called the average
book cost which can be taken from the evidence in this case put in
by Mr. Scott. In column 3 is the amount of realized depreciation
by years beginning with 1909, back of which it is not possible to
get it, and in the next five columns is the percentage by years,
going back twelve years, ten years, eight years, six years and four
years. The realized depreciation for 1909 appears to be how much
by this exhibit?"

"A. Twenty eight thousand and twenty seven dollars."

For 1910 the realized depreciation, that is, the actual money spent for replacement is \$18,554.00. For 1911, \$52,568.00. For 1912 \$183,903.00. For 1913 \$121,397.00. For 1914 \$57,748.00.

For 1915 \$115,171.00. For 1916 \$157,372.00. For 1917 \$152,600.00. For 1918 \$74,662.00. For 1919 \$32,175.00. That is an average for the 11 years of \$90,380.00. The year 1913 the amount of realized depreciation in that year was \$121,397.00, applying that to the book cost for 12 years prior thereto, which would be 1901, the percentage is 42.2% of the book cost of 1901. For the tenth year it would be 27.8%; for the eighth year 20.8%; the sixth year 17.8%; the fourth year 11.7%. For the year 1917 it is 26.1%, realized depreciation in percentage down to 1919. For the 10th year 17.3%, for the 8th year 14.8%, for the 6th year 9.5% and for the 4th year $13\frac{1}{2}\%$.

For 1918, 10.2% for the 12th year, 8% for the 10th year, 2369 6% for the 8th year, 3.6% for the 6th year, and 3% for the

4th year.

For 1919, 3.7% for the 12th year, 3.4% for the 10th year, 2% for the 8th yar, 1.4% for the 6th year, 1.3% for the 4th year, making an average for the 11 years—

"A. (Interrupting.) 22.1% for the 12th year; 19.8% for the 10th year; 13.1% for the 8th year; 9.1% for the 6th year and 6.8% for the 4th year."

Those figures would indicate that in 1918 and 1919 there was not very much reconstruction work and I judge that was due to the heavy reconstruction work or replacement work that preceded in the two years immediately prior to that. That was during the war restrictions, when the Government wouldn't allow any building, but your replacements the two years prior to that were very heavy, and it is probable you brought the plant up to condition where replacements were not very much needed in those two years. That is the way it would look from the amount you spent,-the heavy amount you spent in the two prior years. If the evidence in this case by one of the witnesses was to the effect that you would have to spend \$500,000.00 here in the next year or two, just to catch up with the reconstruction requirements, that would make a five year period, practically, in which you have spent only about \$90,000.00, so it would leave the five year period at \$100,000.00 a year, and would be about normal. That would be about normal for this plant for five years. The two years past you have only spent about \$90,000.00.

"Q. It is \$106,000.00 spent in the last two years?"

In the last two years you have spent a little less than your average for the past five or six years. Whenever you take out this switchboard here and put in the automatic, you will have a very much larger expenditure than in any one year, and of course, that

would necessarily come at one time, substantially in one year, and equally you must have a fund to take care of it. Not a fund to equal the cost of the new equipment, but for the old equipment which you remove, less the salvage cost. So that, the larger the plant gets, the larger the amount that is necessary per annum to take care of the realized depreciation. In addition to the realized depreciation prudence would suggest that we set aside something to

take care of obsolescence and inadequacy and public requirements which we know will come sooner or later. So that the percentage that is set aside ought to be comparable to the investment which you have in the different items and related to the average life of the different items. The methods which I have used to compute the annual return you should have for depreciation is, to my mind, the only proper and rational one. It may be that the actual figure which I have obtained is not the best and most exact figure, if the life of the cable, overhead cable, can be shown to be shorter than that which I have adopted. The annual amount to be set aside depends on two things, and two things only,-the average life of the property the depreciation fund is meant to cover, and its cost; that cost must be returned to you within the period of its actual life, and the only proper way is to separate the whole equipment into individual items, that is, within a reasonable degree, and apply the average life and the cost to each one and get depreciation per annum for those items, and the sum of the total depreciation on the whole property. Mr. Hoag attempted to do that and found 6.33% as the proper

rate of reserve for depreciation, but that was not applicable to the depreciables. Not to the depreciable part of the property, but it was calculated on the depreciable part of the property and then allocated to the entire plant for convenience, and that means the entire plant has an average life of 15 years. That is the buildings, land, and cables which have as much as 40% junk value, and all the other items together, make an average life of about fifteen That seems to be rather low to me, it is, to my mind, impossibly low. This realized depreciation does not tend to prove that it is not too low. That realized depreciation, in order to be a real assistance and help in reaching a conclusion, would have to be divided into its component parts. We don't know from that whether a switchboard that has been in use fifteen years has been removed one year and raised the cost of that year, but proves the switchboard's life was fifteen years instead of twelve, or we don't know but what cables were allotted a twenty year life and have lived only twelve years, and be removed and brought that amount up. It has to be segregated into its component parts, and the date at which the equipment removed that year was installed. It costs money when you take it out, regardless of when it is put in. But in order to draw a conclusion for the future—there is no question about its relation to the past. I understand that the Bell Company, for the entire United States, is setting aside nearly 6% as reserve for replacements, I understand they are setting aside that sum of money. I also

2372 understand that the Government allowed 5.72% as reserve for replacements. Of course, the percentage would be different in accordance with the different kind of plant. It would be less on the distribution lines. The rate of depreciation on the lines which are not aerial would be less than would be the lines that are aerial lines, but the investment would be heavier. The rates would be less, but you would have a heavier investment, and therefore the smaller rate, applied to the heavier investment, will still make an annual depreciation rate which would not be so much less than the other one.

I judge it would be less, but of that I am not sure. The increase in cost of sub-surface conduits is very much greater, compared with the aerial. You might have a lower depreciation, but when you multiply the higher depreciation rate by the lower amount and the lower depreciation rate by the higher amount, you might get an amount

not so very far apart.

I cannot say that the Keystone Telephone Company is in a very prosperous financial condition,—I see some red ink there. In 1918, they apparently lost \$34.362.00 in spite of their low operating expense, and they made \$132,783.00 less than they did the previous year, and that is without paying a dollar of dividends for this past year. They might have paid some dividends the preceding year, having made more money.

On page 304, it shows that they have to pay taxes assignable to operations on account of the Federal Income Tax \$14,404.00. Taxes for the State of Pennsylvania \$10,219.00. Both of those taxes were

included in this report to the InterState Commerce Com-

2373 mission.

I do not recall what I have ever testified in any valuation case or rate case before any State Commission in the United States.

I am very sure at the present time that I never did.

I would estimate, as an engineer, that the proper amount for reserve for replacements would be somewhere between \$136,000.00 and \$148,000.00, and I would regard that as absolutely ample, to return your investment to you. Now, if you set up a different value. if you double the value of this property by carrying it in as reproduction cost and try to get back as a payment the reproduction cost instead of what was actually paid out, then that would not cover it. I would say that the figure would be \$136,000.00, with that probably increased by three or four thousand dollars to cover the possibility of a somewhat shorter life of aerial conductors than I assume. would say \$140,000.00 would cover it amply. If the realized depreciation for the past ten years averaged \$90,000.00 a year, and don't increase any for the next ten years, that would not leave \$50,000.00 a year to take care of inadequacy and public requirements. In this depreciation, the life assumed is not based on wearing out, but inadequacy, public requirements and obsolesence all are factors which determine the average life,-I will change my answer.

Yes, it is true that the \$50,000.00 is what you have to set up for possible obsolesence. In other words, the plant that you

are tearing out this year is plant that is somewhere between, ax, twelve, fifteen, may be twenty, possibly twenty-five years old. If you are setting aside reserve for replacements today, you are setting aside a reserve for replacements to take care of, not for the plant ten years ago, but the plant of today. If the plant is twice as great today as ten years ago, it would depend on what you were setting aside ten years ago and how rational it was, as to whether you ought to be setting aside twice as much today as you did ten years ago. The amount to be set aside is proportional, roughly, to plant. It is directly proportional if the plant is segregated into its separate items

having different lengths of life. It is proportional, absolutely, to the amount invested in those separate items.

Mr. Howard: You say that \$90,000.00 is the realized depreciation, and you ask if it only leaves \$50,000.00 for obsolesence and public requirements, and things of that kind. Isn't that a part of the obsolesence-isn't it a part of the obsolesence, and all that-isn't that taken care of up to that time to a great extent,-taken care of by realized depreciation?

Mr. D. A. Frank: Yes, sir, but takes care of property from eight

to ten or fifteen years old.

Mr. Howard: Don't all of those things enter into the life of the property, and when you replace property, haven't you replaced not only the wear and tear, but you have replaced obsolescence

and public requirement, and those things? 2375

Mr. Lyndon: The whole combination of causes requires the replacement. If the realized depreciation don't grow except in proportion to the plant and you set aside only \$140,000.00 a year as you estimate, and the realized depreciation amounts to only \$90,-000.00, leaving \$50,000.00, and you should happen to get in one year \$500,000.00 realized depreciation on account of switch boards, which is entirely possible if you change to the automatic, it would take ten years of depreciation to pay for that one item alone. That is the only reasonable basis to run a telephone plant on. In the first place, if you have to remove \$500,000.00 worth of equipment of one kind in one year, it doesn't follow that that same year you would do your usual \$90,000.00 worth of work anywhere else. Another thing is, assume that you had four or five years of your \$50,000,00 saved up and that you needed \$250,000,00 more to meet this extraordinary condition, the I. C. C. suggests that in case of extraordinary charges like that, that they be distributed over several years. That would be an extraordinary charge. Whenever you have a normal and usual charge of \$90,000.00 to \$100,000.00, and then under the same heading you suddenly get a cost of \$500,000.00, it would not be logical to set aside \$250,000.00 a year to take care of one possible sporadic item. In 1912 you had \$183,903.00 in realized depreciation in one year, which was 52% of the plant 10 years old, or 35% of the plant 8 years old, or 25% of the plant 6 years

old, or 19% of the plant 4 years old. You had that in 1912, but that, in itself, was only 100% more than the average. I do not think if you should set aside the reserve that I recommend that you would go into the hole further and further every year. As far as I can see, you would be accumulating a fund and that fund would ultimately be quite sufficient to take care of extraordinary

conditions.

As to what a reasonable per cent for reserve for replacements to be set aside on a plant twenty or thirty years old,-I do not think it is rational to apply percentage. I do not think it is the proper thing. Every plant will differ. For instance, as I have pointed out, a large percentage of the Keystone equipment is underground, larger than here and it would decrease the percentage. Take a plant like the entire Bell System, I should say that a fair average of reserve for replacements, taking the whole plant, real estate, buildings, and everything, and taking the original book cost, which is the amount of money that must be replaced. I should say that somewhere between three and three and three-quarter per cent of the whole thing would be a satisfactory figure in spite of the Bell experience that about six per cent is the right amount, because Bell experience has been the experience of a very rapidly changing art that has settled down, at least as far as the conducting systems are concerned. I know that the telephone industry is changing faster now than it ever has before due to the automatic. It may be that it is changing faster now due to hundreds of other things but I don't know

that, I have no knowledge of it as a general telephone user. The manifestation of it, either in character of apparatus turned over to the user or character of service which he gets, is still lacking. We have no indication from those standpoints, and any advance in the art should be felt by the user. The same thing is true of riding on a railroad train. Twenty-five years ago the railroad tracks would take you from here to Galveston, and today it will do the same, but today you can ride in a Pullman car, with greater comfort, and in those days you might have ridden in an ordinary chair car, or day There have been developments even in railroad building, although they are one hundred years old, and that development is being felt by the user; but, as I say, the development in the telephone art has not manifested itself to the user. The instruments that you pick up are, of course, part of the equipment and system. They manifest themselves to the user, and as I say, I see no difference between now and fifteen years ago, except that we got better service then than now.

As I have stated, the entire instrument, including what the A. T. & T. Company furnishes, is worth \$10.00 to \$14.00, that is, roughly. I have allocated \$2.70 for the instrument of the American Company and the other eight or ten dollars would be parts that you would have to buy. The Southwestern or the American Tel. & Tel. Company would have to buy those parts and they are part of the subscriber's set. They are charged up in that heading. When I say from \$10.00 to \$14.00 I am including the transmitter, receiver, and induction coil, the complete thing runs from \$10.00 to \$14.00.

2378 depending upon whether a wall set or a desk set.

"Q. Take an ordinary desk set like we are all used to,—how would you get \$10.00 worth there by counting the transmitter, receiver and induction coil at \$2.70?"

"A. The box, the ringer and the coil and the stand and the hook switch and all the stamped portions that go to make up the set."

I do not understand that the stand itself is furnished by the American Telegraph & Telephone Company. I don't know what the stand is worth. The little iron box, that is nothing but a little box four or six inches square and they are turned out in enormous quantities, there is no question about that. The bell is two little hollow pieces of iron, with a little nickle over it, it does not cost very much. It

might be that the most expensive part of the entire desk stand set is the transmitter, receiver and induction coil, but my idea is that the rest of the instrument is more than one-half of the cost of the entire apparatus, considerably more than one-half; the part which is furnished by the Telephone Company is considerably more than one-half of the total. The desk stand is the cheaper of the two, usually runs about 15% or 20% less than a wall set. I have been speaking of the desk stand. It is my understanding that at the present time that runs about \$10.80. The wall set runs from \$12.50 to \$13.00. I would figure that \$11.00 would be approximately an average in a plant the size of Houston, it would look that way from a casual glance. To determine it would be another thing.

Mr. Hoag in his appraisal on page 167 put in the figure of \$162,429.00 for the parts not owned by the American Telephone Company, which, on the basis of 26,000 stations, made \$6.25 per station, and Mr. Pennell put in \$4.25 for transmitters, receivers and induction coils, which makes \$10.75 per station, but it was based on a higher value for the portion owned by the American Telephone Company and a lower one for the parts furnished by the Telephone Company, the Southwestern Company. Now, I have no personal knowledge of what those things cost, except the statement of the American Telephone & Telegraph Company. As I have told you, I have investigated, and as far as my investigation went, my investigation indicated between \$3.00 and \$3.25 as the present charge by other companies for those parts. It is not my information that the market price of the Kellogg instrument today is around \$5.00. That is not the information I got from Mr. Kelsey, who I understand manufactures them, I know he manufactures some telephone apparatus, and if he does not I was under a misapprehension, but he ought to be somewhat informed as to their cost, and I am using his statement when I say between \$3.00 and \$3.25. His testimony on the cost of those parts is very much better than mine because he is in intimate contact with them.

Returning to that statement I say 3% or 3½%, somewhere between that would be an approximation of this plant, as near as I can get it, at the present time. On that basis, in 1909 you had a book cost of the property of \$1,031,000.00. According to my idea of 3% you ought to have set aside \$30,000.00 to \$35,000.00 a year. In

1910 the book figure was \$1,245,322.00. On that basis you

2380 ought to have set aside about \$36,000.00.

"Q. We actually spent \$18,000.00, so we would have had that year about \$18,000.00 in the reserve. In the next year, 1911, we had \$1,601,000.00. On the basis of 3% that would make about \$48,000.00 we ought to have set aside?"

"A. Yes, sir,—say \$50,000.00."

"Q. Say \$50,000.00,—and adding that to the \$18,000.00 for the year before, we would have \$58,000.00 in the reserve?"

"A. \$68,000.00 in the reserve."

"Q. And we actually had \$52,000.00 in realized depreciation, so that would leave \$14,000.00 in the reserve?"

"A. \$16,000.00."

"Q. That is correct. In 1912 we had \$2,072,000.00; now, at 3% on that,-you say 31/2%,-that would make \$70,000.00?"

"A. That would give you \$86,000.00."

"Q. But we had \$183,900.00, practically \$184,000.00 realized depreciation that year?"

"A. Yes, sir."

"Q. That would put us \$98,000.00 in the hole?"

"Q. We would have to go to the banks and borrow that to take care of the plant?"

"A. Yes, sir, and the interest would be part of the annual charge."

"Q. Now, then, the next year our book figure was \$2,350,000,00, and 31/2% on that would be-

2381 "A. \$81,000,00."

"Q. \$81,000.00. We owed \$98,000.00 and we spent in that year for realized depreciation \$121,397.00."

"A. That is \$219,000.00 behind on \$81,000.00 as a credit."

"Q. What do you get?"

"A. \$219,000.00 you are behind and \$81,000.00 as a credit. That is \$138,000.00 you are behind."

"Q. \$138,000,00?" "A. Yes, sir."

"Q. In 1914 we had \$2,501,000.00, which would make \$87,500.00, and we had a realized depreciation of \$57,748.00, which is practically \$58,000.00?"

"A. Yes, sir."

"Q. That would be \$196,000.00?"

"A. That would give you \$29,000.00 to the good to apply to the \$138,000.00 which gives you \$109,000.00 you are behind."

"Q. In 1915 we had \$3,088,000.00,—call it \$3,100,000.00."

"A. Then that is \$113,000.00."

"Q. That would be \$105,000.00?"
"A. Yes, sir, you are right."

"Q. In that year we had a realized depreciation amounting to \$115,000.00. That would put you \$10,000.00 further in the hole, or \$119,000.00?"

"A. Yes, sir."

"Q. The next year we had \$3,571,000.00."

"A. That gives \$126,000.00."

"Q. \$126,000,00,-but we had a realized depreciation of \$157,372.00. That puts you \$31,000.00 further in the hole and makes \$146,000 00 in the hole."

"A. Yes, sir."

"Q. Now, the next year there was a book cost of \$3,590,000,00,practically \$3,600,000,00."

"A. That is \$126,000.00."

"Q. And we had a realized depreciation of \$152,000.00, which puts you \$26,000.00 further in the hole, making you now \$172,-000.00 in the hole."

"A. Haven't we repeated on that \$152,000.00?"

"Q. No. sir. In 1916 we had \$157,090.00 and in 1917 we had \$152,000.00,"

"A. That is \$26,000.00 further, or a total of \$172,000.00."

"Q. In 1918 in that year we had \$3,591,000.00, which would be \$126,000.00, and a realized depreciation of \$74,662.00,—practically \$75,000.00."

"A. That leaves \$51,000.00 to the good."

"Q. Which makes \$121,000,00?"

"A. Yes, sir."

"Q. Leaving you in the hole \$121,000.00?"

"A. Yes, sir.

"Q. In 1919 you had \$3,705,000,00?"

"A. Call it \$3,700,000.00. That is \$129,000.00."

"Q. And you had a realized depreciation of \$32,000.00?"

"A. That is \$97,000,00 credit."

"Q. Which leaves \$24,000.00 in the hole?"

"A. Yes, sir." 2383

"Q. That leaves you \$24,000.00 in the hole, that is, you lack \$24,000.00 of having enough to take care out of that fund for reserve for depreciation,-that is, for your replacements?"

"A. Yes, sir. The 31/2% should be obviously somewhat more than that, because we get only \$127,000.00 for 1919 on 31/2%, and we

found \$136,000.00 for the actual depreciation."

"Q. That leaves you \$24,000.00 in the hole, short of making these

replacements."

"A. We take \$136,000.00 and we admit probably that ought to go up about \$4,000.00 after this detection of the short life of aerial cables, so that \$140,000.00 would be about proper for 1919, and the book cost is \$3,600,000.00 and something,—eall it \$3,700,000.00. It would be, really, 4%."

"Q. In this computation we are left \$24,000.00 in the hole,lacking \$24,000.00 of having a reserve for replacements at all?"

"A. Yes, sir, on the basis of 31/2%."

"Q. What has become of the \$918,000.00 of depreciation that you took off of these figures. We would lose that much; \$24,000.00; and what become of the \$918,000.00 you subtracted from the books?" "A. That is accrued, but not yet realized depreciation."

"Q. But haven't we got a right to collect from the public, as you

put it, an amount sufficient to take care of the \$918,000.00?" "A. You have. The idea is this: Whatever is paid in, no matter how used,-whatever is paid in as depreciation is amortization of that amount of property of the Company. The Company is not even required or obliged to replace its property. It can take

that money and go off with it if it wants to, because that is the Company's money given to it in consideration of the

public's having used up that much of the Company's apparatus." "Q. You think it would take 4% for realized depreciation, and then in addition to that, in order to take care of this \$918,000.00, we would have to have 4% or 5% more?"

"A. Hardly."

"Q. You subtracted it from our book value, our book cost, you have subtracted it entirely?"

"A. Subtracted the \$918,000.00, but we haven't gone over the whole period here of the Telephone Company."

"Q. But if the theory will work at all, it ought to work over a ten

year period?"

"A. No, sir; the only period over which it could work would be the complete period in which the longest lived property had passed

through its life."

"Q. Do you see the point I make, that on your theory, in setting aside 3½% or 4%, at the end of ten years we would be without a reserve for replacements, and there is \$918,000.00 taken away from our books, and we had known that ten years ago, we ought to have been setting aside enough so we would have that amount of money in our treasury to take care of the amount subtracted by the valuator?"

"A. You should have the property or the money,—there is no doubt about that, and the money might be employed in extensions and worked into capital account. That is perfectly proper."

2385 "Q. We would have to collect it in something we would call reserve for replacements, wouldn't we?—we would have to call it something?"

"A. You would have to collect it in the depreciation fund."

"Q. As a matter of fact, the \$136,000.00 you are talking about ought to be collected over and above the actual realized depreciation, ought it?—over and above the realized depreciation? Otherwise, if we should keep our plant up for forty years, the time would come when we wouldn't have any plant at all, on your theory?"

"A. That goes back to fundamentals. You get a piece of property and it goes through half its life; the depreciation on it is 50% and it has a much less value, but when you replace that property, take a depreciation fund and replace that property, it stands new and the accrued depreciation is removed from it. That is, there is no accrued depreciation on anything that has reached the end of its life and been replaced, because the thing that has replaced it is new. It stands without any age. The only thing that must be kept in mind is that it must be replaced only with money from the depreciation fund. Now, obviously, the public must furnish a sufficient amount of money to enable you to make continuous replacements."

It has got to be included in the rates. It is usually set up as a depreciation fund. That depreciation fund should be this sum of money: the amount that represents the deterioration in value 2386 of the property every year. What has happened here is that

when you built up your plant to the present book cost, \$3,705,000.00, and have taken out $3\frac{1}{2}\%$ to meet the realized depreciation, and at the end of the time you are \$900,000.00 worse off than when you started, that condition would not be fair, absolutely. As you have put it, it does not look fair, but let's get the facts. The facts are that the depreciation fund must be a sufficient amount, not only to make replacements, not simply to make replacements, but to cover each year the change in value that the plant suffers or undergoes, due to the fact that it has started to the end of its life.

Just like a human,—as soon as he is born he starts to the end of his life, no matter how long he may live.

"Q. In order to accumulate this \$900,000.00 and have that over and above this reserve for replacements we have been talking about,—back here in 1909, if it be presumed the plant started in 1909, we would have had to set aside something like \$130,000.00,—not quite that much, probably an average of about \$90,000.00 a year for the ten years over and above these replacements, in order to have such a fund as you have described, would we not?"

"A. No, sir. When you used the money to replace individual parts, those individual parts had then lost their accrued deprecia-

tion, disappeared."

This accrued depreciation is computed in this way: We had not the actual replacements, without which an accurate set up cannot be made, but we did assume replacements that were made at the end of the theoretical life of the property. We took that assumption, that property that we said had 8% depreciation, meaning

a twelve and a half year life. At the ending of that period,twelve and a half years, we assumed, not having the data, we assumed it was replaced, and you will see that poles, switch board apparatus and P. B. X's., and subscribers' stations, all of which are taken at twelve and a half year life, that the apparatus if placed in 1907, is given a zero depreciation and zero life today, on the assumption that in 1919 the twelve and a half years having elapsed, it was replaced and is new today. That is regardless of whether you did replace it or not. You see, in that case it was the only assumption we could make, and I believe that it was in favor of the Company. Now, I can tell you better by taking the actual replacements that you have here and making computations with those and seeing when these replacements were made, provided the replacements are divided intosegregated into the individual units. The data which we had here covered simply the total replacement. We don't know what they apply on or what they relate to. That is the theory of replacement. The theory of fixing a certain life for a plant and computing depreciation and setting it up as actual figures is, as far as I know, universal. I do not know any Commission that has not adopted it. I don't know about the Courts. I will cite you to the case of the Madison Gas & Electric Company against the Madison Printing Company. It was between 1906 and 1909 I know, because I used that case and all its principles in determining whether the consolidation between the Harrisburg Electric Light Company and the Paxtong Company would be permitted. I did not get the theory

tong Company would be permitted. I that he get at the table there. It is the only possible theory that I know of that has any fundamental basis. It is the only rational one that I can see. I don't know where I got the theory if I did not get it from that case. I have several elements of knowledge that are very definite in my mind, but I couldn't tell you where I got them or how they

became fixed.

"Q. You think that no Court or Commission finds value by taking an inventory and appraisal of unit cost and material prices and attempting to find it in the way we have in this case, but all of them, according to your opinion, universally, have set ups of the kind you have here, with theoretical life and assumption as to the ago of the various parts of the plant,—is that your opinion?"

"A. Yes, sir. You mean by your method, that of looking it over

and determining its condition 9:

"Q. Yes, sir. The method we have used, the method of inspection."

"A. It is so utterly impossible that that should have any bearing on anything that might be even remotely conceived of that I can't grasp the idea of any intelligent person, Court, citizen, or anything else accepting it as bearing on the subject. It is beyond me."

I do not know of any decision other than the one I have referred to that discusses the theory that I have mentioned. I have brought out here very clearly and definitely that obsolescence and inadequacy

are the fundamental factors which require removals and which fix the life of a plant; and any gentleman that can inspect anything and tell how soon it has got to be removed because of its then condition has a mentality that I am unable to understand.

Redirect examination.

Questions by Mr. Howard:

"Q. Mr. Lyndon, Mr. Frank this morning asked you how you would—he assumed a certain $3\frac{1}{2}\%$ depreciation annuity and had you make the computation based upon that and based also upon the experienced depreciation and I believed you arrived at the result that one yould cancel the other, did you not?"

"A. Following the computation, it means that a depreciation actually set up would have been \$28,000.00, less than the depreciation actually experienced over the period which we took the figures for.

That was for ten years beginning in 1910."

In the first place, the $3\frac{1}{2}\%$ was not the percentage that I found afterwards actually did apply. It was a guess made at the time for rather a rough approximation. I find that for \$3,660,000.00 and some odd thousand, the actual depreciation which I computed was \$143,500.00 as applying to the equipment and it was the replacement of the equipment only that we had considered. Now, that is approximately 4%. The \$136,000.00, substituted for the

2390 \$143,500.00, was a total \$143,500.00 to apply to the equipment less the increase in value of the land of \$7,000.00 a year. If one increases and the other diminishes, the net is the total sum to be furnished by the public. As Mr. Frank expresses it, if half the plant was in land that increases just as rapidly as the equip-

ment decreases, then there would be no change in total value, no depreciation allowed and no depreciation fund. I don't think that question has ever been submitted to the Court and I know no utility has that ratio of land and equipment. Another thing, Judge, another matter, collateral matter, was that the adjustment of the Houston Home purchase brought in a considerable portion of that depreciation. The Company bought,-that is, the present operating company bought the old Houston Home Company, which had practically depreciated, a depreciation that had accrued on that property was a portion of the \$918,000.00, in fact a considerable proportion. I understood that the Houston Home Company's property was put on there at the depreciated value, the final value as taken was the depreciated value. With reference to how these depreciations would add anything on account of the Houston Home Company's property, I will give you an instance: The Houston Home Company's pole line is set down in the calculation for pole lines as being added to your property in 1915, at its original cost value of \$66,000.00. That is in my tabulation. You set it up at \$59,000.00. I set it up at \$66,000.00. I then applied the age of the pole line and the depreciation rate and got the depreciation on that pole line that had accrued for that period. We are talking about both realized and accrued depreciation. That would add

about both realized and accrued depreciation, to my set up. But on the figure of the realized depreciation, there would not be anything added, if your figures were used, because of the fact that the property was put on there at the depreciated value. The realized depreciation might have been taken out when it was put on your books, but in order to be consistent in the method which I have used, I put down the original cost value of each item of the property, I never took the depreciated value. So that, in my set up I am not talking about the realized depreciation, but the accrued depreciation which had accrued but not yet realized.

"Q. You know, of course, that The Houston Home Company's property is taken out at the same figure that it is put on our books, that is, we don't put a pole on there, that we value at \$9.00, we don't take it out and charge \$17.00 for it, but we charge the \$9.00 when the pole comes out."

"A. 1 don't know what your method is, but it seems to me, what you should charge, certainly the appropriate and sound method would be to charge what that pole cost, not what you took it in at."

"Q. That is what is done under the Interstate Commerce rules?"

"A. If the pole cost the Houston Home Company, \$10.00 and you bought it for \$4.00, then you should take it out at \$4.00."

"Q. But it comes out at \$10.00."
"A. I don't regard that as sound."

"Q. That is the I. C. C., that is what they tell us."

(By Mr. Howard:)

2392 "A. Passing from that. If replacements had been deferred for a very considerable period over the time—

"A. (Interrupting.) A specific period, of course, can be selected in which a great many replacements at high costs had been crowded into a comparatively few years, which would be indicative of an average that did not actually obtain over a long period. The past ten years show an average, I believe, of about \$90,000.00. This is subject to computation and correction, but I think about \$90,000.00 a year. It is possible that if they were extended back to 1901, that the average realized depreciation would be considerably reduced and the average per annum related to the average investment per annum over the total period might be reduced. I can't say that it would without seeing the figures."

"Q. Well, now, as I understand you. Mr. Lyndon, you suggested the depreciation of this property in the sum of \$918,000.00 because you have estimated that the earnings of the utility have been set aside for the purpose of replacements, which exceeds the actually

realized replacements by about that amount?"

"A. Yes."

"Q. Now, if it is a fact that the company has not earned in addition to its fair return an amount in excess of the actually realized replacement, would you set such excess aside or is it reasonable to conceive of such excess, that the plant ought not to be depreciated."

"A. Substantially that, it is a matter of preference, it would depreciate the plant and set-up the loss under the head of "Cost of Establishing Business." The net returns or the net capital account of the company is not changed."

"Q. That would be your method, it would come out practically at the same place?"

"A. It makes identically the same capital account."

"Q. In other words, upon treating the matter of investment, for a certain amount of money-if a certain amount of money had been invested and the plant had worn out in parts and they had collected no more than enough money to keep the plant replaced in a reasonable way, you would not then suggest a further depreciation?"

"A. Certainly not. The idea of depreciation is that a sufficient sum shall be allowed the company to take care of its reduction in value. Now, if that reduction in value comes, which it inevitably does and then part of it is neutralized by replacement, then the difference between the total amount which has accrued and the reduction in that total amount by replacement is a difference which should exist in some fashion as a profit either over and above the profit and return or a repayment to the investor for the apparatus actually consumed in performing the services."

"Q. Let's see if we can actually assume; take a plant worth \$2,000,000.00 and you can set up a depreciation say arbitrarily of six per cent for the purpose of keeping up the plant and amortizing

the investment." "A. Yes."

"Q. If you run along operating until you get as much say as \$500,000.00 in that fund. Now, if the whole amount is kept invested in either extensions or replacements, will

there be any room for depreciation then? There will be then no deterioration will there?"

"A. No, sir, provided the extensions made with that fund are

not written into capital account."

"Q. But if they are written into capital account, for instance you take this \$2,000,000.00 and you get up a fund of \$500,000.00 and then no depreciation realized and you take that \$500,000.00 and add it to it and make extensions, you would then have a larger plant or a \$2,500,000.00 plant, what would be the relative amount of the investment?"

"A. The investment would still be \$2,000,000,00 if the \$500. 000.00 is written into the capital account, the books would show an investment of \$2,500,000.00 and a depreciation of \$500,000.00, making the net value of the plant \$2,000,000.00, which has been its net cost and has been its net investment. It shows that the fund for depreciation has been diverted for the purpose of profit."

"Q. And if you had to add that \$500,000.00 to the capital account and make it \$2,500,000.00, then you will have to depreciate it the \$500,000.00, because that was not the original investment, to get that to the original value of the property you have to depreciate it the amount that has been charged to the plant out of the replacement or depreciation fund?"

"A. Yes."

"Q. Well what relation has the depreciation fund to the accrued depreciation? By that I mean the amount by which 2395

the plant should be depreciated."

"A. The total amount set aside for depreciation, less the actual replacement is the reduction in the value of the plant. On that basis it would make but little difference whether set-whether the plant set aside two or three items as large as the real depreciation is, if it were not for the fact that very great amounts set aside form higher rates which in the course of years would be adjusted by a large portion of the plant account being amortized, therefore reduced and followed by a low rate so that the community within thirty years would get an average rate which would be correct, but the population during say eight or ten years would retain more-would be paying more than its share and the succeeding generation less than its share. It is a matter, if it be continuously considered as a forty year period, it makes scarcely any difference whether the depreciation fund is high or low, but the difficulty is the distribution of the burden in one case over one generation and the lightening of it on another."

"Q. Well, suppose, Mr. Lyndon, this set-up here of four per cent you use on the total value of the property as distinguished from the depreciable would not be sufficient to more than keep the plant replaced, more than meet the realized depreciation, would there be any depreciation then of the value of the property as you have ascertained

it here?"

"A. Yes, there would, a four per cent depreciation carried over ten years would amount to considerably more than the replacements2396 "Q. No, I am assuming, I don't care whether it is 4%, or 3% or whatever the amount is, if the amount that you have set up here and allowed will not more than take care of the replacements or realized depreciation, why should the property be depreciated?"

"A. It would not be."
"Q. It would not be?"

"A. It would not be, that is, as a matter of financial facts. As a matter of proper bookkeeping the property ought to be depreciated by an amount, which is based on the life of the separate individual portion and the failure to obtain that depreciation ought to be carried into the cost of establishing business, but the net amount that the company would still have would be same, I mean to draw interest on, would be the same as if there were no depreciation at any time."

"Q. Well, for the purposes now of getting a final conclusion upon this matter, I want to know whether it is your opinion that this \$140,000.00, is set aside annually for depreciation would be sufficient to take care of the replacements and to amortize this investment in

such way that the plant should be depreciated?"

"A. It will do it in such way that the plant will have to be depreciated to some amount. The original figure of \$918,000.00 is susceptible of being made a definite and accurate figure by a knowledge of all the amounts of money that have been expended for re-

placements in 1901 to the present time and it is then a matter of simple calculation to determine just how much the plant should be depreciated as a matter of fact.

(By Mr. D. A. Frank:)

"Q. As a matter of finance instead of fact, isn't it?"

"A. No, as a matter of fact. You see if you get \$10.00 a year or \$10,000.00 a year as depreciation, which amortizes that amount of your investment. Now, if you permit the piece of property that it protects to wear out and you don't replace it, you are in the condition of the man who has had his bond repaid, and you are done."

(By Mr. Howard:)

"Q. Well, Mr. Lyndon, just get your final value on this thing, it suggests itself to me now that possibly you are not in a position to give it, because whether the property should be depreciated in the amount you have formally stated \$918,000.00, can you get that data now?"

"A. The data for the past ten years are available; the data for the five preceding years, I don't know whether—they are not available here."

Mr. D. A. Frank: You can't get it al all. There isn't any such figures. The books are not kept back of 1918, so that you can't do it.

"A. (Continuing:) I am of the opinion without knowledge that the replacements were made and charged to maintenance, out of

operating expenses in 1899; I found that true in one utility and it is quite possible that it may be too."

Mr. D. A. Frank: I object to this statement of such a thing being made in another utility and charged-and charging us with it here.

'A. It is not a charge. The bookkeeping methods in 1910 were

quite different."

Mr. D. A. Frank: Well, it comes pretty close to a charge.

(By Mr. Howard:)

"Q. Are you satisfied with this set-up you have made here, whereby you say this property ought to be depreciated from something around four million to something a little over three?"

"A. No, the indications are from the data I have had that the amounts of depreciation based on four per cent with due regard to the appreciation in land and with due regard to the depreciation in that amount proceeding from the old property of the Houston Home Telephone Company, purchased by the Southwestern Telephone Company would not exceed half that amount. That is my judgment. I don't know without computation."

"Q. Can you take this data from the report of Mr. Frank as furnished the City, and everyone of these replacements and make that a definite calculation or are we under the necessity of leaving this matter of the amount this property should be depreciated somewhat

undetermined?"

"A. In a measure it will have to be undetermined, owing to the fact that nine years from 1901 to 1910, there are no data concerning replacement. If those were available, and perfectly definite,-rather a perfectly definite accrued depreciation amount could be computed

on the basis of setting aside of 4%, or on the basis of setting

aside any per cent that might be suggested." 2399

(By Mr. D. A. Frank:)

"Q. What would happen if the books had been burned up and we hadn't had any of those figures at all?"

"A. Well, we would just have to reach some general conclusion."

Mr. Howard: That is what he says he has done. He has tried to do the best he could, not having the books, but he says he makes that, but it is not accurate.

Mr. D. A. Frank: That shows the fallacy of his whole set-up.

Mr. Howard: But it don't show the fallacy; of course, there is a fallacy in all these things.

"A. There is no fallacy in the method of computing the interest on the note, but if you don't know the face value of a note, you can't do it."

Mr. D. A. Frank: If you don't know the face value and the time, you would be still worse off.

"Q. Those values, with a reasonable degree of certainty, could an approximation be produced?"

"A. Yes, an approximation could be made."

"Q. But the figures which you first have, I am speaking now, of

those, rather those that you have furnished us-

"A. It is the past history, that lacking the past ten years—that is lacking the past ten years, can be taken as some sort of criterion and from that, the previous history projected. That would be only an assumption because we have no means of knowing that the previous history—the history previous to 1910.

of knowing that the previous history—the history previous to 1910, was along the same lines as the history from 1910 to the present time, but in the absence of any data at all, something would have to be assumed. It might be that the assumption would come very close to the actual facts, or it might be it would depart from them,

but there is no option left."

Yesterday, after stating the amount of property that I found to be used in this plant serving the public here, upon two methods—one by accepting the Company's inventory of 1914, plus additions since that time, and the other by an apportionment of the historical or book cost, I found certain figures, approximating \$4,000,000.00, and I stated that that property should be depreciated on account of deterioration, but that the exact amount I could not tell. The depreciation would be a greater amount than \$918,000.00, computed with a subtraction from this greater amount of the total replacements. It is obvious, of course, that when a replacement is made the depreciation accrued disappears. If the amount reached in this manner, assuming that all the data were available and could be exactly computed, it is covered by the fund which the Company has on hand and which has been received from the public; then that becomes the true deduction from the value of the property. If

the Company has no larger fund than this amount, which it has received from the public, that then becomes the measure of the depreciation, because it would mean that the public had amortized that much of the plant,-had paid back the Company for its investment of that much of the plant. If the Company had not received a sufficient amount to cover the true depreciation, then the only depreciation which could be charged against the Company's assets would be the amount of the fund which it might have accumulated for the purpose of depreciation, and not the total actual depreciation. That assumes, of course, that all money in excess of a fair return, or 8%, has been carried into the depreciation fund. If there is no fund, and the Company had been making 10% and declared it in dividends, then it would be correct to set up the other 2%, regardless of whether it had been paid out in dividends or not, for the period of time which it had endured and converted into a depreciation fund, or the equivalent, and to set up that as depreciation deductible from the value of the property. Briefly, and theoretically, depreciation based on the life of the property should have an equivalent fund accumulated. If the Company has been unable to accumulate a fund, it is proper to reduce the value of the property by the amount which the Company

has not collected as amortization. It would only be an approximation as to the amount in which this property should be depreciated; in view of the nine hundred odd thousand dollars replacements, I should say that, including the Houston Home depreciated value, that the actual depreciation would run somewhere between \$250,-000.00 and \$400,000.00, but those are simply limits. It has to

be a matter of judgment, because we are without the data 2402 for actual computation.

Mr. D. A. Frank: Why don't you just assume it? Mr. Lyndon: That's just what I am doing, Mr. Frank.

Mr. Howard: Your Honor, I believe that's all the questions I have to ask of Mr. Lyndon at this time. He is preparing a statement showing an adjustment of the toll revenue, and later I will want to examine him on that.

Cross-examination.

Questions by Mr. D. A. Frank:

No this is not an assumption, there is no assumption about depreciation,-we all know that it happens. Actual depreciation happens,-theoretical depreciation happens,-all depreciation happens. I think there is no question about that, even with your own engineers.

"Q. But you found \$918,000.00 of accrued depreciation in this plant without looking at it?"

"A. That wouldn't have made any difference."

"Q. And without knowing that \$900,000.00 had been spent in replacements in the last ten years, you now say that there would still be \$250,000.00 to \$400,000.00 of depreciation in the plant?"

"A. You include the \$918,000.00 and assume replacements in

excess of your \$900,000.00."

"Q. But it is regardless of the facts?" 2403

"A. It is not regardless of the facts. The computations which make up the \$918,000.00, representing the accrued depreciation, includes, replacements estimated, which exceed \$900,000.00."

"Q. And regardless of the fact that the Supreme Court of the United States says-

"A. (Interrupting.) Regardless of the Supreme Court of the United States, or any other men. The Supreme Court is made up of humans,-not experts.

"Q. You put yourself above the Supreme Court as an expert?" "A. As an expert in my line of work. I think that there isn't a combination of the entire Supreme Court that can form as good judgment, and being under oath-

"Q. (Interrupting.) Although this is the second time you have ever testified in your life, and have never made an inventory in your life, and never read a single book on valuations from cover to cover?"

"A. Those are your statements, but don't happen to be true. I have told you that I read Whitten from cover to cover, including the preface."

"Q. And still you didn't recognize the articles quoted from Whit-

ten?

"A. I don't memorize books, and never have done that. If you mean by reading that you learn to 'parrot' if off page by page,—and besides, I am not bound by Whitten's views; he has just simply pointed out what they are, and some may be wrong and some I am sure are."

2404 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

VS.

THE CITY OF HOUSTON et al., Defendants.

Præcipe.

To the clerk of said court:

The Clerk will please incorporate into the transcript of the record on appeal the following portions of the record which Plaintiff, Southwestern Bell Telephone Company, submits in addition to the rest of the record herein, for the consideration of the United States Supreme Court in connection with the appeal of Southwestern Bell Telephone Company:

(1) The following Exhibits and Abstract of Exhibits filed here-

with:

Plaintiff's Exhibits numbered thirteen (13) to twenty-three (23), inclusive, F. M. Hoag, witness; pages 2254 to 2265, Statement of Evidence.

2405 Plaintiff's Exhibits numbered thirty-one (31) and thirty-two (32), H. P. Topping, witness; pages 2266 to 2268, Statement of Evidence.

Plaintiff's Exhibit numbered thirty-six (36), Geo. P. Player, wit-

ness; pages 2269 to 2270, Statement of Evidence.

Plaintiff's Exhibits numbered thirty-seven (37) to thirty-nine (39), inclusive, C. A. Gates, witness; pages 2270 to 2274, Statement of Evidence.

Plaintiff's Exhibit numbered sixty (60), James E. Allison, wit-

ness; pages 2275 to 2286, Statement of Evidence.

(2) Plaintiff's Exhibit numbered eighty (80), representing changes in electrical current, F. L. Rhodes, witness; page 2287, Statement of Evidence.

(3) Plaintiff, Southwestern Bell Telephone Company's Statement of Evidence in support of its Assignments of Error, numbered as pages 2253 to 3084, inclusive, and filed herewith.

D. A. FRANK,
JOSEPH D. FRANK,
WM. H. DULS,
Solicitors for Plaintiff,
Southwestern Bell Telephone Company.

Service hereof accepted on this the 1st day of February, A. D., 1921.

W. J. HOWARD, Solicitor for Defendants.

2407 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

V8.

THE CITY OF HOUSTON et al., Defendants.

Plaintiff, Southwestern Bell Telephone Company's Statement of Evidence in Support of Its Assignments of Error.

2408

PLAINTIFF'S EXHIBIT No. 13.

Inventory.

F. M. Hoag, Witness.

This Exhibit is mimeographed. It consists of 256 pages in which are listed the number of poles, cross-arms, insulators, amount of wire, cable, land, buildings and all of the physical property. It is sub-divided as follows:

sub-divided as follows.	Page.
1. Land 2. Buildings	 . 1-8
o Distributor System	 00 100
5. Station Equipment	 161-23
6. Furniture and Fixtures	232-25
7. Tools and Store Equipment	 . 254-25

PLAINTIFF'S EXHIBIT No. 14.

Map Showing How State Is Divided Into Divisions.

F. M. Hoag, Witness.

This is a map of Texas on which is indicated the manner in which the State is sub-divided by The Southwestern Telegraph & Telephone Company in the operation of its business.

Map shows that the State is divided into divisions and the di-

visions sub-divided into Districts as follows:

- 2409 1. Northwest Texas Division.
 - 2. Northeast Texas Division.
 - 3. Southwest Texas Division.
 - 4. Southeast Texas Division.
 - (1) Houston District.
 - (2) Beaumont District.
 - (3) Galveston District.

2410

PLAINTIFF'S EXHIBIT No. 15.

Charts Showing Plant, Commercial and Traffic Organization for the Southeast Texas Division.

F. M. Hoag, Witness.

This chart consists of three pages, showing in graphic form the heads of the three departments and their subordinate employees and indicating the nature of their employment.

Page one shows that the Division Plant Superintendent has an organization consisting of 317 employees including himself.

Page two shows that the Division Commercial Superintendent has

Page three shows that the Division Traffic Superintendent has 1,002 employees. This includes the telephone operators and operating force.

PLAINTIFF'S EXHIBIT No. 16.

Photographs.

F. M. Hoag, Witness.

This is a bound volume containing 113 photographs showing the various buildings, operating rooms, portions of the distributing system, switch-boards, cables, etc.

PLAINTIFF'S EXHIBIT No. 17.

Unit Costs and Material Prices.

F. M. Hoag, Witness.

This is a bound memeographed volume containing 176 pages showing the unit costs and material prices that were used by the witness is appraising the physical property of The Houston Exchange. It sets out in detail the cost of the material and the labor and incidental charges involved in placing the material in the plant.

PLAINTIFF'S EXHIBIT No. 18.

Appraisal.

F. M. Hoag, Witness.

This is a bound mimeographed volume consisting of 288 pages showing the witness' estimate of the Reproduction Cost New less depreciation of The Houston Exchange property.

The first page is a summary as follows:

2411 The Southwestern Telegraph and Telephone Company.

Houston Exchange.

Summary of Appraisal.

Reproduction Cost.

	•	215,187
1.	Land	476,550
2.	Buildings	2 100 000
3	Distributing System	1,156,480
4	Central Office Equipment	1,100,100
5.	Station Equipment	318,685
		4,655,562
	Contingencies and Omissions, 3%	139,667
	Engineering Expense, 4%	4,795,229 191,809
	General Expense, 2%	4,987,038 99,741
		5,086.779
	1 22 4	10 001
6.	Furniture and Fixtures	11 000
7.	Tools and Store EquipmentStable and Garage Equipment	10 010
0		5,128,530

CITY OF HOUSTON VS. S. W. BELL TEL. CO.	1245
Taxes During Construction	101,720
Interest During Construction	5,230,250 453,360
Total Reproduction Cost of Physical Property	5,683,610
2	
Cost of Establishing Business—Going Value	992,881 238,818
Total Reproduction Cost, Houston Exchange	6,915,309
Reproduction Cost Less Depreciation.	
Total Reproduction Cost of Physical Property Present or Per cent Conditio nof Physical	5,683,610
Property	92.91%
Appraisal of Physical Property—Present Con-	
dition	5,280,642
Cost of Establishing Business—Going Value	992,881
Working Capital, Including Supplies	238,818

Total Reproduction Cost Less Depreciation. . 6,512,341

PLAINTIPP'S EXHIBIT NO. 19.

Comparison of Actual Cost of All Central Office Buildings Completed Since 1914 with Reproduction Cost of Houston Buildings as Used in Appraisal.

F. M. Hoag, Witness.

Actual cost per cu. ft.	\$.415 .524 .314 .313
Actual cost.	\$44,923 99,168 41,301 38,366
Contents, cubic ft.	108,857 189,000 131,420 122,724
Location. Date completed.	San Antonio May, 1918 Beaumont June, 1919 Dallas January, 1915 January, 1915
Office.	Mission Beaumont Cliff Preston

2413 Reproduction Cost of Houston Buildings as Used in Appraisal.

	Office.	Contents, cu. ft.	Total cost.	Cost per cu. foot.
Preston		623,590	\$354.590	\$.568
Hadley		186,837	85,349	.457
Taylor		73,364	34,861	.475

PLAINTIFF'S EXHIBIT No. 20.

Example- of Contingencies and Omissions in the Inventory and Appraisal of Telephone Exchange Property.

F. M. Hoag, Witness.

This Exhibit comprising eight typewritten pages, gives a list of 101 examples of Contingencies and Omissions applicable to the inventorying and appraising of Telephone Exchange Property. Illustrations are contained in that portion of the record relating to the witness' testimony on this subject.

PLAINTIFF'S EXHIBIT No. 21.

Cost of Establishing Business.

F. M. Hoag, Witness.

This exhibit is an estimate of the cost of establishing the business, based on an appraisel of the property made Oct. 1, 1919. On page 2 of the Exhibit it is stated:

"In addition to a bare physical plant, we have every item
2414 of value by which a live going plant exceeds in value a dead
or dormant plant. * * * Starting with a bare physical
plant, it would involve a large additional capital investment to reproduce the business, to convert the dead physical property into a live
going concern."

In ascertaining what it would cost to convert the dead physical property into a live going concern the exhibit estimates the expenses for three periods of time,

- 1, the preliminary period;
- 2, the construction period; and
- 3, the development period.

In the preliminary period expenses must be incurred for preliminary studies by experts of the telephone conditions in the community, of the size, growth and future prospects of the community, and of the location of industries and the like. Also legal expenses in con-

nection with the drawing of franchises and charters, and obtaining

rights thereunder.

In the construction period, which includes the time during which the physical property is being constructed, there are expenses of maintenance, of depreciation, of building up the organization of employees, and of obtaining subscribers.

In the development period, which includes two years from the beginning of operation, there are expenses resulting from losses or deficits due to the business not being up to normal, that is, to the fact that the normal number of subscribers is not ob-

tained until after two years from the time operation is begun.

For the preliminary period the exhibit estimates the expenses to be \$12,280.00; for the construction period, \$493,939.00; and for the development period, \$486,662.00; making a total estimate of the cost of establishing business of \$992,881.

The exhibit consists of 37 pages and gives in detail the data used

in arriving at the total estimate.

PLAINTIFF'S EXHIBIT No. 22.

Routines and Instructions.

F. M. Hoag, Witness.

This Exhibit, comprising nine pages of mimeographed material, gives a list of 173 routines and instructions used by The Southwestern Telegraph and Telephone Company in operating its business such as, "Pay Roll Routine; Reporting Accidents; Contract Order Routine; Destruction of Records; Method of Depositing Collections; Stationery—Usage and Accounting; Routine Tests on Common Battery Equipment; Final Report on Estimates; Tests on Cable Installations; Inspections; Annual Inventory of Supplies and Tools; Handling Carbon Protector Blocks and Micas; First Aid Kits; Wage Schedule and Classification of Operating Employees; Pro-

2416 tection of Employees in case of fire or other emergencies; Sunday Relief Schedule; Uniform Code Ringing; Service Complaints; Handling Western Union Telegrams by Telephone; Methods and material for Standard Multiple Marking and use of Multiple Check Forms; Teacher's Manual on the Selection and Training of Telephone Operators; Handling Calls intercepted on account of Directory error; Instructions to Chief Operators for Handling Calls of Subscribers to whom service is denied; with regard to the Soliciting of Advertising for Directories;" etc.

PLAINTIFF'S EXHIBIT NO. 23. F. M. Hoag, Witness.

The Southwestern Telegraph and Telephone Company.

Houston Exchange.

Records.

Note.—Samples of the records mentioned in this Exhibit were filed in a separate cover as part of the Exhibit. No more copies available.

2417

The Southwestern Telegraph and Telephone Company.

Houston Exchange. Records. The following is a list of the more important records of property maintained in Houston and the number of

erence	Number.		30,258	2,469
he "Ref	A 5	ddress,	II Pri-	
g in t		lling a	d of a	ons
appearing	ption.	Cards which show the name, billing address, location of telephone etc. for each sub-	scriber 30,258 Cards on which is kept a record of all Pri-	nge Stati
number	Description.	show the	ich is ke	ch Excha
The cover		which tion o	on wh	Bran ,
each required in the various departments for the Houston Exchange. The number appearing in the "Reference Number" column refers to the sample of the record contained in the cover.	Name of record.	Subscribers' card recordCards	S-6473-A, B & C P. B. X. Station cardCards	vate
column refers to the	Form number.	S-7464-T	S-6473-A, B & C	
each requ Number"	Reference number.	1	2	

PLAINTIFF'S EXHIBIT No. 23—Continued.

Number. required.	146	19,500	737	opies 140,880		128	134	479		1,231	446
Description.	Cards on which is kept a record of each Private Beauch Exchange	Cards on which is kept a record of each sub-	Cards on which is kept a complete record of each employee	A form originated in seven copies (A-G) for each new subscriber only 3 copies (A-C) retained	A daily work report showing time of em- ployees and listing material used and re-	Forms showing line number, panel and jack spaces which can be used for new sub-	scribers	Loose leaf forms showing the names and addresses of all subscribers—listed numer-	Loose leaf forms showing the telephone number and name of subscriber to each	telephone, arranged by street location Forms on which is kept a record of subscribers' line and station number on each	jack
Name of record.	P. B. X. Index card	Subscribers' Line Record	Employees' service Record	Contract Order	Daily Work Report	Lines Available for assignment (New Form)		Numerical Directory Record	Street Record	Panel and Jack Record	
Form number.	S-6472	S-6468-A, B&C	S. N. 77	S-9400-A to C	S-6481-K. O. T.	S-7406		S-7408-A & B	S-7410	8-7407	
Reference number.	က	4	20	9	7	∞	2418	6	10	11	

140		09	516	53	115			1	24 «	>
Employees' tool accountForms on which is kept a record of all tools issued to employees	Stock Record Forms on which is kept a record of all material ordered and disbursed and the	Cable Record	House Cable	Block Cable,Cloth tracings showing the layout and details of all cables attached to the out side	Onderground ConduitCloth tracings on which is shown a record of all main and subsidiary conduit		Underground CableCloth tracings which show the layout and all details of main and subsidiary under-	Poles and Aerial Cable Cloth tracings which show all Poles and	Skeleton Aerial Cable Record., Cloth tracings on which is shown record of Aerial Cables and the distribution of cable	
S. N. 54	S-6316	S-6454								
12	13	, 14	15	16	17	2419	18	19	20	

2420

PLAINTIFF'S EXHIBIT No. 31.

Detail of Unit Costs.

H. P. Topping, Witness.

This is a bound volume comprising 138 mimeographed pages showing the unit costs and material prices which were used by the witness in making his appraisal of The Houston Exchange Property. It sets forth in detail the cost of the material and the labor and incidental charges involved in constructing the property.

PLAINTIFF'S EXHIBIT No. 32.

Valuation of Plant.

H. P. Topping, Witness.

This is a bound volume containing 52 pages, mimeographed showing in detail the witness' estimate of the reproduction cost new less depreciation of The Houston Exchange Property.

On pages 1-B and 1-C is a summary reading as follows:

The Southwestern Telegraph and Telephone Company.

Houston, Texas.

Topping Valuation Co.

Summary.	Reproduction
Real estate:	
Land	\$249,066
2421 Buildings:	
Preston	405,700
Hadley	78,224
Taylor	41,004
Warehouse	. 366
Total Buildings	. 525,374
Equipment:	
Central Office	. 1,894,837
Other Equip. of Central Office	. 17,167
Total Equipment	. 1,912,004

	Reproduction
Subscribers' station equipment:	cost new.
Apparatus	362,295
Installations	92,358
P. B. X	67,184
Block Wires	7,649
Booths & Special Fittings	9,754
Total Sub. Sta. Equip	539,240
Distributing system:	
Poles	555,641
Aerial Cable	861,822
" Wire	168,461
U. G. Conduit Main	805,670
" Subsidiary	113,594
" Cable Main	827,029
" Subsidiary	162,558
Right of Way	32,565
2422 Total Dis. System	3,527,340
Sub. Total (A)	6,753,014
Central equipment:	
Furniture & Fixture Local	27,788
" " General Prorate 50%	13,893
Tools	10,591
Motor Vehicles	12,467
Total General Equipment	64,739
Total Physical Property	
Working Capital (Supplies and Cash 4%)	$\substack{6,817,753\\272,710}$
	212,110
Total Physical Property Including working capi-	
tal	7,090,463
Cost of Establishing Business, 20% of \$6,753,014	1,350,603
Grand Total	\$8,441,066
Reproduction Cost new less depreciation	6,409,006
Working Capital (Cash & Supplies)	272,710
Cost of establishing business	1,350,603
Present Minimum Value	

2423

PLAINTIFF'S EXHIBIT No. 36.

Report on Appraisal of Property of the Southwestern Telegraph and Telephone Company, Local Telephone Plant, Houston, Texas.

Geo. P. Player, Witness.

This is a bound printed volume consisting of 59 pages showing the witness' estimate of the reproduction cost new less depreciation of The Houston Telephone Exchange Property.

Page 54 contains the witness' estimate of the necessary amount to be paid out of revenues each year as the Annual Reserve for De-

preciation. Page 1 contains the following Summary:

Final Summary.

	Classification of plant.	C. N.	C. L. D.
1.	Land	\$178,500	\$178,500
2.	Buildings	463,131	395,814
3.	Central Office Equipment	975,668	882,283
4.	Subscribers' Equipment	357,087	308,732
5.	Distribution System, Aerial	1,021,043	886,587
6.	Distribution System Underground.	1,179,822	1,051,314
7.	Total	\$4,175,251	\$3,703,230
8.	Overhead Expenses, 17%	709,793	629,549
9.	Total	\$4,885,044	\$4,332,779
10.	Right of Way	26,743	26,743
11.	Furniture and Fixtures, Local	9,767	7,814
12.	Furniture and Fixtures, General	0,101	1,022
12.	Office	7,412	5,930
2424			
13.	Tools and Teams	21,509	16,639
14.	Total	\$4,950,475	\$4,389,905
15.	Stores and Supplies	25,000	25,000
16.	Working Capital	137,814	137,814
17.	Cost of Establishing Business	990,095	990,095
18.	Grand Total	\$6,103,384	\$5,542,814
N	own C N Denotes Cost News C I	D Donotes	Cost Loss Do

Note.—C. N. Denotes Cost New; C. L. D. Denotes Cost Less Depreciation.

PLAINTIFF'S EXHIBIT No. 37.

Unit Costs and Material Prices.

C. A. Gates, Witness.

This is a bound mimeographed volume containing eight pages lettered from A to H inclusive and 155 pages showing the unit costs

and material prices that were used by the witness in appraising the physical property of The Houston Exchange. It sets forth in detail the cost of the material and the labor and incidental charges involved in placing the material in the plant.

2425

PLAINTIFF'S EXHIBIT No. 38.

Appraisal.

C. A. Gates, Witness.

This is a bound mimeographed volume consisting of 251 pages showing the witness' estimate of the reproduction cost new less depreciation of The Houston Telephone Exchange. Page 251 contains the witness' estimate of the necessary amount to be paid out of revenues each year as the Annual Reserve for Depreciation which reads as follows:

Houston Exchange.

Weighted Annual Rate of Reserve for Replacements.

		Per cent of total	
		reproduction	Equated
	Annual rate	cost in	annual
	of reserve.	ea. class of plant.	rate of reserve.
Land			
Buildings	9 5	4.22%	000
Pole Line	2.5	10.72%	.268
Aerial Cable	11.	8.16%	.898
Acrial Wine Line	6.	12.99%	.779
Aerial Wire, Line	13.	1.87%	. 243
Aerial Wire Drop, 20% of (13%).	2.6	1.05%	.027
Underground Conduit, Main	2.5	11.89%	. 297
Underground Conduit, Subsidiary.	7.	1.57%	. 120
Underground Cable, Main	3.	11.13%	. 334
Underground Cable, Subsidiary	7.	2.16%	. 151
Underground Cable, House			
Cable	7.	.28%	. 120
2426 Right of Way	4.	.54%	.022
Central Office Equipment	10.5	24.89%	2.613
Station Apparatus	11	3.91%	.350
Station Installations 20% of		/0	
(11%)	9 9	2.17%	.048
Interior Block Wire 20% of		11 /0	.010
(12%)	2.4	.20%	.005
Private Branch Exchange	10.5	1.25%	.131
Boots & Special Fittings	11.	.07%	.008
Other Equipment of Central	11.	.0170	.000
Office	10.	170	047
Furniture & Fixtures	10.	.17%	.017
Tools and Store Favinment	10.	.36%	. 036
Tools and Store Equipment	****	.21%	
Stable and Garage Equipment	****	.19%	
Total Physical Property	****	100%	6.376%

Note.—The average annual rate of reserve installations, drops

and block wires is determined as follows:

The rate given in parenthesis is the proper rate, assuming that the installations, drops and block wires remain in service for their entire life. Owing to disconnection of service by subscribers, many installations, drops and block wires are removed or abandoned and charged to expense account at the time service is discontinued. It is estimated that about 80% of the installations, drops and block wires are treated in this manner. The rate is applicable only to the balance and therefore figured at 20% of the rate shown in parenthesis.

2427 On page 1 is a summary of the Appraisal reading as

follows:

The Southwestern Telegraph & Telephone Company.

Houston Exchange.

Summary of Appraisal.

Reproduction cost:	
Land	\$210,850
Buildings	535,081
Distributing System	2,577,511
Central Office Equipment	1,242,514
Station Equipment	378,921
	4,944,877
Contingencies and Omissions, 3%	148,346
_	5,093,223
Engineering, 4%	203,728
_	5,296,951
General Expense, 2%	105,939
	5,402,890
Other Equipment of Central Offices (Furniture & Fixtures)	9,380
Furniture and Fixtures	19,894
Tools and Store Equipment	11,638
Stable and Garage Equipment	10,219
-	5,454,021
Taxes	75,260
-	5,529,281
2428	
Interest During Construction	465,750
Total Reproduction Cost of Physical Property	5,995,031

Cost of Establishing Business—Going Value Working Capital including Supplies	987,996 238,818
Total Reproduction Cost, Houston Exchange.	7,221,845
Reproduction cost less depreciation:	
Total Reproduction Cost of Physical Property Present or Percent Condition of Physical Property	5,995,031 92.88
Appraisal of Physical Property—Present Condition. Cost of Establishing Business—Going Value Working Capital, Including Supplies	5,568,185 987,996 238,818
Total Reproduction Cost Less Depreciation.	

PLAINTIFF'S EXHIBIT No. 39.

No Title

C. A. Gates, Witness.

This Exhibit consists of 18 pages of typewritten matter and blue print curves showing the population of the City of Houston, its growth, assessed valuation per capita, bonded indebtedness, cost of municipal improvements, revenue of the City from all sources except bond issues, expenditures of the City of Houston, building permits issued by the City, bank deposits and bank clearings. The Exhibit was offered in connection with the witness' testimony concerning the history of the community and the subject of a fair return.

2429

PLAINTIFF'S EXHIBIT BO. 60.

Report on the Reproduction Cost of the Southwestern Telegraph & Telephone Company at Houston, Texas.

James E. Allison, Witness.

This is a printed volume consisting of 99 pages in which is set forth in detail the witness' appraisal of the Houston Telephone Exchange property.

Pages 3 to 10 inclusive of the exhibit contain the following Summary:

2430 The Reproduction Cost (Exclusive of Toll Equipment).

TABLE 1.

Summary of Reproduction Cost of Physical Property.

1.	Land	\$215,187.50
2.	Buildings	476,300.00
3.	Distribution system	2,599,485.66
4.	Subscribers' Station and P. B. X	373,457.01
5.	Central office equipment	1,174,257.92
6.	Subtotal	\$4,838,688.09
7.	Ommissions and contingencies, 5 per cent	007 000 00
	itama 3-5	207,360.03
8.	Engineering 5 per cent Items 2-7	241,543.03
9.	Construction administration, 1 per cent, items	#0 0#F 01
U.	19	52,875.91
10.	Toyes and insurance (1 year mean period)	69,573.09
11.	Interest during construction (1 year mean period), Items 1-10	432,803.21
	211	\$5,842,843.36
12.	Subtotal	11,637.54
13.	Tools and store equipment meter eveles etc	10,219.01
14.	Automobiles, horses, wagons, motor cycles, etc.	19,894.21
15.	Office furniture and fixtures	
40	Subtotal	\$5,884,594.12
16.	Subtotal	125,000.00
17.	(b) supplies	82,464.08
		\$6,092,058.20
18.	Total physical property	1,794,124.00
	Total reproduction cost	\$7,886,182.20

In preparing our report on the present reproduction cost of this property, we have used an inventory furnished us by the Company, approximately as of October 1st, 1919. For all practical purposes, the inventory is as of to-day and for obtaining present reproduction costs we have applied prices so far as obtainable as of December, 1919.

Table I shows the results of our work as applied to the different classes of property. Taking up the items in order the following paragraphs are a brief description of our

methods in coming to the conclusion set forth.

Land.

(Item 1-Table I.)

In assigning our amount as the present value of the land in the property under consideration, we have adopted the figures as reported by local real estate experts furnished us by the company.

Buildings.

(Item 2-Table I.)

In assigning a present reproduction cost to buildings, we have used the opinions of local contractors, whose figures were also furnished us by the company.

Distribution System.

(Item 3-Table I.)

In making our estimate of the present reproduction cost of the distribution system, we have taken the unpriced inventory, furnished us by the Company and applied to each item or class of items, what in our opinion, would be a conservative cost of labor and material as of December, 1919. In making up these costs, we have used such

present prices for material as were obtainable from manufacturers and dealers and from a consideration of the later bills and vouchers in the files of the Company's records. Our labor estimates we based upon tables of wage costs kept on file in

Subscribers' Stations and P. B. Exchanges.

(Item 4-Table I.)

In obtaining our results on the item, we have used the detail inventory of the property and affixed costs obtained in the same manner as for item 3—Table I.

Central Office Equipment.

(Item 5-Table I.)

In making our estimate of the present cost of reproduction of the Central Office Equipment we have used a detailed inventory fursished by the Company to which we applied costs obtained from our less for similar installations adjusted to present day prices of the lements entering into the manufacture and installation of such quipment.

Overhead Construction Costs.

(Items 7, 8, 9, 10, 11-Table I.)

In estimating our Overhead on Construction Costs, we have used factors and percentages, which are in our opinion, conservative and which can be amply supported by the decisions of courts and commissions

missions.

In making up our figure-for Interest during Construction
and for Taxes and Insurance during Construction, we have
assumed a period of reproduction of two years for the physical
plant.

Office Furniture and Fixtures, Tools and Store Equipment, Stable and Garage Equipment.

(Items 13, 14, 15-Table I.)

As the cost of making detailed inventory and following changes of prices to apply in a reproduction cost appraisal on these items is out of all proportion to the importance of the amounts. It is customary to take for them the showing of the book accounts. This we have done in our report.

Working Capital.

(Item 17-Table I.)

The Item of working capital includes three elements: First, Cash necessary for operation. Second. The permanent balance of subscribers' accounts owed. Third. The stores and supplies carried. The first two elements we have included in a round sum estimate of \$125,000. The third element is taken from the books of the Company.

TABLE II.

Intangible Property or Cost of Establishing Business.

(Reproduction Cost.) \$50,000.00 2434 1. Cost of Promotion. 25,000.00 2. Organization and Legal Cost..... 3. Capitalization of Initial Risk 15% on Item 18, 925,533.33 Table I, and items 2 and 6, Table II... Initial Deficit 3% for three years on Item 18, Table I and Items 2 and 6, Table II...... 553,320.00 5. Cost of assembling Capital 3% on Item 18, Table 185,106.67 I, and Items 2 and 6, Table II... 6. Cost of Attaching Business, \$2.00 each on 26,-53,164.00 582 installations

Total

7.

\$1,794,124.00

In estimating the cost of reproduction a given utility property, when such estimate is to be used as a measure of present value, it becomes necessary to take into account, not only the amount of capital necessary to pay for actual construction work of the plant, but, also to take into account the probable cost of obtaining the capital, of properly rewarding the promoters of the enterprise, of paying for legal and other organizations expenses, of building up the business to a point of reasonable return, and of accounting for probable deprivation of return upon capital during the period before the property becomes a going concern. This portion of the value of an established utility is variously known as Intangible Property or Cost to Establish the Business, or as Going Concern Value.

It is necessary to arrive at the estimate of Going Value by the method of probable costs, because the returns which actually give the value are, in rate or confiscation cases, in question, and, therefore,

cannot be used as a judicial measure of value.

2435 The following is a brief discussion of the items of Cost to Establish Business or of Going Concern Value as measured by costs, which in our opinion, should be included in present value as measured by cost to reproduce.

All of these figures we have endeavored to place at minimum estimates, yet the total amount to be added to physical property may appear large to those unaccustomed to the study of the real expense, other than for physical property necessary in the establishment of

any large enterprise.

If each item of estimate is taken by itself and analyzed, it will be found that an investor would have to consider each as a cost to him in creating such a property, and to those having knowledge of such costs, the percentage assigned to each cannot appear excessive.

Cost of Promotion.

(Item I-Table I.)

The beginning of any enterprise of the magnitude of the present property engaged in the Houston Telephone service, especially if it were to be produced as a whole, would require the services of men of considerable ability, to organize and place in motion the various forces required to successfully carry on the different steps in the creation of the plant and business.

The services of such men are necessary for initiation and initial management, and they are, when the enterprise is 2436 successfully carried out, the creators of value and are entitled

to proper reward.

The promoter usually receives his reward on a speculative basis. Sometimes it is exorbitantly high, sometimes he loses. In assigning \$50,000 as our item for this cost we have attempted to use a low fgure at which such service might be bought and paid for on a nonpeculative basis.

Cost of Initial Organization.

(Item 2-Table II.)

As an evident expense in creating any property similar to the one under discussion is the cost of preconstruction organization, including legal and attorney's expense. We have adopted in this case the round-figure estimate of \$25,000.

Capitalization of Initial Risk.

(Item 3-Table II.)

In the initial stage of any enterprise, before the ability to earn returns is established there is, of course, a very considerable element of apparent risk. In order to induce the investor to place his savings in such an enterprise it is necessary to hold out to him the prospect either risk, or to convince him that his capital will undergo an enhancement in value. Under the circumstances of the

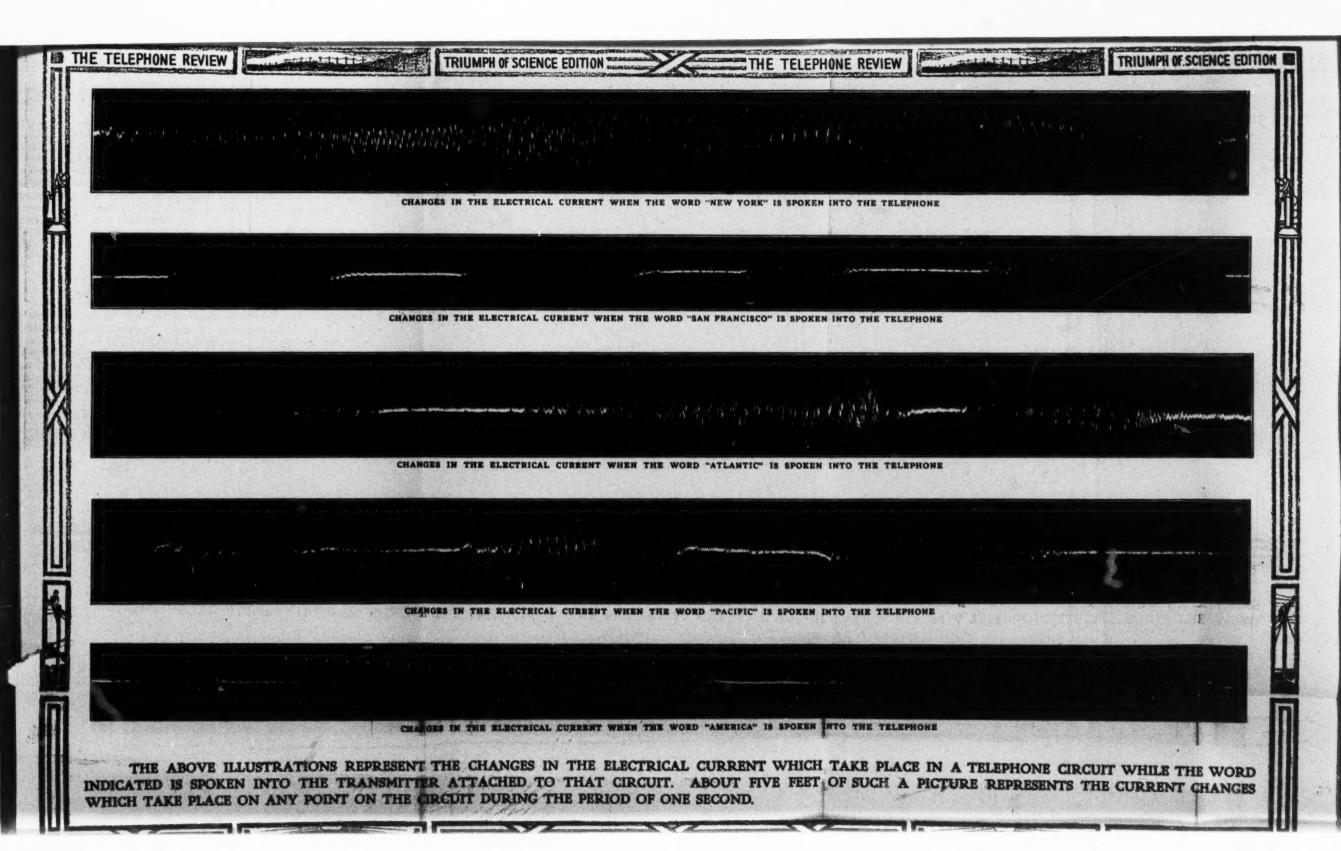
regulation of public utilities, it is certain that only a moderate or so-called reasonable return upon a determined amount of capital can be expected. It follows that any investor who is not being deceived, in placing his money in an enterprise, such as the reproduction of the Houston Telephone plant and service, would refuse to enter his capital unless he could be assured that he would be allowed to earn these moderate returns on a greater amount than he actually invests. This is, in short, the familiar financial fact of the necessity for selling securities in a new enterprise at a discount.

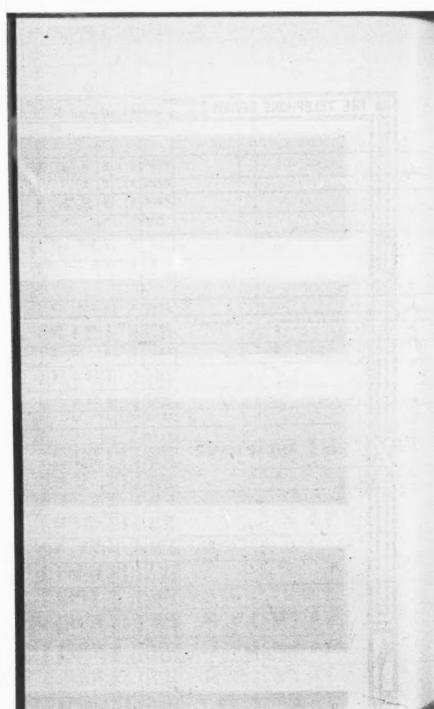
We have assumed in our estimate of the financial costs of reproducing the property under consideration that the investors would require the prospect or the right to have their capital enhanced at least 15 per cent to induce them to take the initial risk. This would mean a discount on the securities of only 13 per cent, i. e., they would sell at 87 per cent of par. Such a concession would be absolutely necessary to obtain the money for such a project and would therefore be a real and actual cost of reproduction. Under competent financial advice, no investment in such an enterprise would be made without a definite understanding with the regulatory powers providing for reimbursement for initial risk.

Initial Deficit.

(Item 4-Table II.)

In the reproduction of a Telephone system such as that of Houston, the business of the Company could not be expected to spring into immediate existence upon the completion of the plant. There would be a considerable period under the most favorable circumstances, when the investors would be deprived of a portion of a reasonable return on their capital. We have taken





for this period only three years and an average deficit of only 3 per cent, as figured on the cash items of reproduction cost. The probability is that a longer time and a higher per cent would be the actual result. This item is a well-established one in court and commission decision-.

Cost of Assembling Capital.

(Item 5-Table II.)

Money for building large utilities is not, as a rule, obtained from a single source. Through the medium of underwriters, investment bankers and brokers, the capital is gathered from many and widely scattered sources. The cost of this service is a necessary cost and is paid by the investor as a part of his investment. Unless it is to be confiscated, it must be recognized as a part of the capital in the service of the public. In this case we have placed the item at 3 per cent as a minimum estimate.

Cost of Attaching Basiness.

(Item 6-Table II.)

In building up the business of the Telephone Company, it is necessary to spend money to obtain subscribers. The average amount of this cost for each subscriber, is, or should be, charged to capital account when he is connected with the system just as is the cost of installing his telephone. It remains as a capital item until he is disconnected from the system. There is constantly engaged in the business as a part of capital a cost for each subscriber equal to the cost of procuring him as a customer.

The usual allowance for this charge is approximately four dollars per installation, but in this report we have used \$3.73 for the original cost and \$2.00 per station for the reproduction estimate.

Plaintiff's Exhibit No. 80 is as follows:

(Here follows Plaintiff's Exhibit No. 80, marked page 2440.)

A. E. Scott, a witness for the complainant, was recalled 2441 and testified as follows:

Direct examination

(Questions by Mr. J. D. Frank:)

My name is A. E. Scott and I live in St. Louis. I have already been sworn in this case. I am a statistician for the Southwestern

Bell Telephone System.

I have prepared a statement from the books of the Southwestern Telegraph & Telephone Company showing the original cost of the completed buildings owned by the Company in the City of Houston. These books show that the original cost of the Preston Building complete as of November 30th, 1919, \$201,097.68. The books show the original cost of the Hadley Building complete \$51,481.14. The books show the original cost of the Taylor Building, complete, \$22,-419.15. Both Mr. Hoag and Mr. Gates who have testified as to the value of the property in this case and have made appraisals, have included in their appraisal an item of working capital, in-

cluding supplies, amount- to \$238,818.00. They stated that they got that figure from the accounts. I am the man who

prepared that figure.

I have prepared an exhibit showing how I worked out this work-

Before introducing this exhibit in evidence I will explain to you what is meant by "Working Capital", what it includes or covers and why it is necessary to include that in a valuation of a property. In addition to the physical property of a concern, a business needs capital other than that, to meet its current obligations, provide an adequate supply of materials and stores a sufficient amount of cash to maintain and retain its credit; it is known by various names; some people call it "Liquid Assets," "Current Assets," "Quick Assets," and other similar titles, but it is capital in liquid or variable form, to meet the current needs of a company. I have some definitions here of experts and commissions; I would like to read one or two of them.

Mr. Robert H. Whitten, in his book of "Valuation of Public

Service Corporations," page 287, states:

"This working capital includes stores and supplies on hand and sufficient funds in addition to bridge the gap between outlay and reimbursement." Robert H. Whitten is an expert electrical engineer.

Mr. Howard: Mr. Frank, I might say there is no contention on the amount-we are not contesting the facts of it, there must be some working capital and supplies that is undisputed.

Well, some of these definitions show or outline the method of obtaining a Working Capital, which method I have followed and justify the method I have used. I would like to read a few of them to get that in. Mr. C. L. Corey in a table on rates for gas service read before the Nineteenth Meeting of the Pacific Coast Gas Association and printed in the American Gas Light Journal October 21st, 1911, page 260, gives a more correct statement, in which he says:

"From the amount of working capital usually carried by such companies, and from the amount that is required by other similar public utility corporations, it appears that, as an average for the year, a sum equalling the accounts receivable and cash on hand, less the accounts payable and consumers' advance payments, is a reasonable allowance."

Another expert in the case of Peoples Gas Light & Coal Company of Chicago, which was another rate case, says that "the best information as to what constitutes a reasonable allowance for work-

ing capital, is supplied by the balance sheets showing the current assets and current liabilities." That is exactly what I have done.

Mr. Hammond V. Hayes in his book "Public Utilities, Their Cost New and Depreciation," at page 230, says:

"The items to be included in working capital are supplies of all kinds, cash for current use in sufficient amounts to insure economical and safe operation of the plant, and the balance between bills and accounts receivable and accounts payable."

Here is the opinion of the Wisconsin Railroad Commission in its Report, Volume 5, at page 316:

"Plants which are running, or in actual operation, must have working capital as well as fixed capital. In this case the latter, or the fixed capital, is largely represented by the cost of reproducing the plants, while the working capital is, in part, represented by the figures given in that table for "stores and supplies." The stores and supplies there given, however, do not represent all the working capital the plant requires. Plants of this kind, the same as practically all other business enterprises, must have on hand a reasonable cash balance and other current resources in order to

operate economically and effectively. That this is the case is almost self-evident. Just what sum represents a fair amount for working capital, is nearly always a matter of judgment, and to this there is no exception in this case."

In another case, the Wisconsin Railroad Commission says "Working Capital consists of supplies of all kinds and cash for current use and may also include other items. It is necessary as any other part of the Investment."

The Public Service Commission of New York for the First District, case of Mayhew et al. vs. Kings County Lighting Company,

11 P. S. C. R. First District 659 (1911) stated:

"A Gas Company must purchase materials and supplies, must pay its employees, it must distribute its commodity to consumers in advance to payment for such service. This requires a fund ordinarily called 'working capital.' It is reimbursed from operating receipts from time to time, but originally is provided from capital."

The Maryland Public Service Commission in re Chesapeake & Potomac Telephone Company (rate case) P. U. R. 1916–C, at page 953, in the instruction of the appraisers issued in this investigation, defines "working capital," as follows:

"Working capital is the amount of cash and supplies, or without available assets, readily convertible into cash without pecuniary sacrifice, reasonably necessary to be kept on hand by the Company for purposes of meetings its current onligations as they arise, and enabling it to operate economically and efficiently. It should be taken to embrace such stock of materials and supplies as is reasonably necessary to enable the company to make repairs and minor replacements chargeable to plant, without unreasonable delay or expense, and to meet operating contingencies and emergencies not taken care of by other reserves or allowances, and generally should be a sum reasonably sufficient to bridge the gap between outlay and reimbursement."

"Q. Now, you have one definition there from some court before

you, Federal court?"
"A. Yes, I have a definition by Judge Hough in the frequently referred to case of Consolidated Gas Company vs. City of New York, 157 Federal 849, in which he says:

"That phrase means the amount of cash necessary for the safe and convenient transaction of a business, having regard to the owners' ordinary outstandings, both payable and receivable; the ordinary condition of his stock of supplies in hand; the natural risk of his business, and the condition of his credit; and unless these matters, and perhaps others, be looked into, no comparison could be drawn between one business and another, or even

between those of the same general nature."

That is what the experts and the commissions and the courts have said about the subject.

I have prepared an exhibit showing how I determined the amount of working capital for the City of Houston.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 41.

(The Document referred to was thereupon received in evidence, marked Plaintiff's Exhibit No. 41 and is as follows:)

2448

PLAINTIFF'S EXHIBIT No. 41.

A. E. Scott, Witness.

The Southwestern Telegraph & Telephone Company.

Working Capital for Houston, Texas, September 30, 1919.

	Average month ended Se	aly balances 9 mos. ept. 30, 1919.
Item.	Amount.	Total.
Cash	\$522,005.16	
Accounts Receivable from Sub-	51,512.16	
scribers and Agents Accounts Receivable from Sys-	376,696.96	
tem Corporations	184,273.47	
cellaneous Debtors	56,214.41	
Materials and Supplies	583,981.88	
Prepayments	$40,\!256,\!56$	
Total Working Assets		\$1,914,940.60
Audited Vouchers and Wages		
Unpaid	22,021.08	
Corporations	160,202.26	
ous Creditors	9,021,91	
Matured Rents Unpaid	29.73	
Service Billed in Advance Other Accrued Liabilities not	12,108.72	
due	$50,\!145.87$	
Total Working Liabilities		253,520.57
		1,561,420.03

Average monthly balances 9 mos. ended Sept. 30, 1919.

	A	
Item.	Amount.	Total.
Net Working Capital for Com-		
pany		
cording to fact		
Accounts receivable from Sub- scribers and agents	376,696.96	
Prepaid Directory Expense	10,731.91	
Total	387,428.87	
Service Billed in Advance	12,108.72	
Net Direct Items		375,320.15
Balance to be apportioned on basis of Plant		1,186,099.88
	327,027,766.32	
Book Cost of Plant Sept. 30, 1919-Houston	3,816,587.60	
\$3,816,597.60 ÷ \$27,027,766.32=	=14.121%.	
14.121% of \$1,186,099.88	167,489.16	
Direct Items: Accounts Receivable from		
Subscribers and Agents Prepaid Directory Expense	69,285.44 $2,043.89$	
Total Working Capital for	or Houston	\$238,818.49

2449 In determining the amount of working capital I went to the books of the Company and made a study of the actual working capital used for the first nine months of this year, 1919.

I will now take this exhibit and explain it to you. The heading there, it says "Average Monthly Balance for 9 months ending September 30th, 1919." By "Average Monthly Balance," I mean I have taken the balance in certain accounts which are listed below at the first of the month and at the end of the month and determined an average for the month. I did that for each of the accounts after each nine months and then made an average for each account for the nine months by taking an average of these averages, (That is what we termed, "an average of averages,") and developed these facts: The actual cash on hand or in banks, the average amount for the nine months, was \$522,005.16. All of these figures are for the company as a whole. The Employees' Working Funds,—those are the funds which we advance to employees out of the current bills, some of the employees have perhaps \$5.00 and some perhaps several

hundred. That is for the purpose of carrying on the business of the Company, the small amounts are paid from the general cash fund but the large amounts are paid in the field. They are required to turn in vouchers showing just how much of this money is spent and then are reimbursed from the general fund. The total of that is \$51,512.16. The average amount of accounts receivable due from subscribers and agents,—that is the amount due for telephone

2450 service,—is \$376,696.96.

"Subscribers and Agents," is the title of the account as provided for by the Inter-State Commerce Commission. At one time we used to have agents, we would take our accounts in a certain town and charge them up to an agent and he would be charged up with the total amount of it, and would charge it back in turn. There is not very much of that done now. The accounts receivable from system corporations amounts to \$184,273.47. That is the amounts due from various telephone companies. A "system corporation" is a misnomer. That is the account name provided by the Inter-State Commerce Commission but it involves not only system telephone companies but all companies. That is principally toll business.

Accounts receivable from Miscellaneous Debtors. That is ac-

Accounts receivable from Miscellaneous Debtors. That is accounts receivable from all others than items from subscribers or telephone companies; principally from the Western Union Company, I think. That amounts to \$56,214.41. The materials and supplies \$583,981.88. That is the average amount of materials and supplies we had on hand in the State of Texas at various points. Prepayments, \$40,256.56. Those are such prepayments as are made, such as insurance, which are not chargeable to the current month in which the expense is incurred. If you buy insurance, you may pay a premium for two years or three years or five years; instead of charging up all that expense to the expense account at the

time, we charge it to the prepaid account and from month to month as the expense becomes applicable, we charge off these amounts and credit the prepaid account. Insurance is a very good example of it. Also the rent. We pay rent in advance. The total, of these items, gives what the Inter-State Commerce Commission describes as "total working assets," \$1,814,940.60. From the working assets, we have deducted working liabilities. In other words, we do a certain amount of our business on credit. We owe people, as well as people owing us. So, in order to get at the nature of the working capital, we have got to make allowance for the amounts we owe others. One item is "Audited Vouchers and Wages Unpaid, \$22,021.08;" that represents the amounts of bills that have been approved and should have been paid but were not paid at the end of the month.

The total working liabilities is \$253,520.57. Deducting the Liabilities from the Assets, we get the net working capital for the company, which is \$1,561,420.03. That is the actual working capital which was used by the Company for the State as a whole during these nine months. I took these nine months because I was studying the problem back in October or November when the nine months period figures were available. Certain working capital can be

allocated to an exchange directly on the basis of fact. Certain other amounts must be allocated on some other sort of a pro rate or

Of the amounts that can be allocated from proportion. 2452 subscribers and agents, we know that so much is applicable to Houston, so much to Dallas, and so much to San Antonio, etc. We know that the prepaid directory expense is applicable to some particular town and the total they amount to in the case of accounts receivable is \$376,696.96; the prepaid directory amounts to \$10, The total, \$387,428.87. That is for the State as a whole,

directly allocated working assets.

This item, "Service Billed in Advance," we don't have any of that at Houston, but throughout the territory and the smaller towns especially we have farmer lines. We bill them for a year in advance; in some cases three months in advance; in other cases, that is an amount which we have billed and which we have not given service and it is a liability because we must give that service. Deducting this "Billed in Advance" cost and all other items which are allocated directly to Exchange, deducting that, we get a balance of \$1,186,-That must be apportioned on some basis other than fact, because, we can't apportion it directly to an exchange. The basis I have used is the plant cost basis, taking the plant of the company and the plant of Houston, getting the relation between the two and determining what that per cent is and applying that per cent to this unapportioned article. The book cost of the plant as of Sep-

tember 30th, 1919, of the company was \$27,027,766.32, that is for the physical property only, and the book cost of the Houston property as of the same date, physical property only was \$3,816,587.60. Dividing the Three Million Eight Hundred Thousand by Twenty-Seven Million, Twenty-Seven Thousand, we get 14.121%, practically 14% applicable to Houston. Applying this per cent of 14 and a fraction per cent to the million one hundred and eighty-six thousand, we get an apportioned item of \$167,489.16. We have in addition to that, the direct items at Houston. That is, the accounts receivable from subscribers and agents, \$69,285.44, and a prepaid directory expense of \$2,043.89. Adding these three items, we get the total working capital for Houston of \$238,818.49. The working capital is carried for the Company as a whole, that is, for the State of Texas, and a certain part of it is allocated to each exchange, based on the actual facts. All of these figures are actual balances as shown by our books.

The reason that working capital is carried for the State as a whole instead of having a certain amount of each particular exchange as a part of the working capital is, we find it very much more economical to handle our cash account in one general fund, make all payments from that, instead of having a cash account at each exchange to meet its current needs and such emergencies as may arrive.

We have a sample of what may happen in an emergency 2454 case. The 1915 storm here, there was a great deal of property destroyed here. I believe the loss was something like Fifty or Sixty Thousand Dollars. They had hurry calls for cash and materials, in order to rebuild the plant and put the plant in proper condition to operate. We simply called on the State to spend the money as fast as we could spend it and drew material from all over the State in order to repair the damage that we had had at Houston. If you had had an individual company here and if it hadn't had sufficient cash and materials on hand to meet an emergency such as that, we would have had to have a great deal more working capital than where apportioned on the basis of a State proposition. By having these funds and these supplies available for the State as a whole, it makes the Working Capital less than it would be if we carried it or attempted to carry it or had it located in each particular exchange.

Cross-examination.

(Question by Mr. Howard:)

This Twenty-Seven Million plus, the book cost of the plant, September 30, 1919, that includes all of the physical property of the plant of the Southwestern in the State of Texas. That is the book cost. That includes pole lines and all. We apportion under this part a certain proportion of our toll property to the plant. The book cost of the Houston property is about fourteen per cent of the entire investment in Texas.

"Q. Mr. Scott, why wouldn't it be a more direct way to get at your supplies and working capital, or at any rate at your working capital, you have to have a certain amount of supplies on hand for the use of this plant or where they can be used for this plant, and it takes a certain amount of supplies monthly to handle it and keep the plant operating property, doesn't it?"

"A. It takes a certain amount to meet the current needs."

There is not very much difference between working capital and material and supplies. If this was just one concern disassociated from all these other plants we would probably have a warehouse where we could store such reasonable supplies as we consider advisable to meet the current needs and such emergencies as might arrive. We do not use the working capital to meet the pay rolls, that comes out of current capital, but we use it for operating expenses and the usual additions.

"Q. Well now, on that particular part of the set-up on working capital, as distinguished from supplies, a great many of them would be carried separate."

"A. This could have been set up as a separate item. It

would make no difference."

"Q. Now, taking just what is strictly known as working capital that can be pretty well determined, more directly determined by an examination of your operating expenses than it can in trying to apply it in a percentage way to your investment, can't it?"

"A. No, sir. In addition to meeting your current expenses, you would need to have cash on hand to take care of your current construction items, small current replacements; your expenses wouldn't

give you all the current working capital you need, you couldn't get it from your expense account."

The maintenance account does not cover any construction work. That would give you simply your maintenance and repair work. In addition to that, you have got-you will have supplies in your warehouse to meet that, and you will have to have cash on hand to pay people who furnish you supplies. Some commissions and some experts have used six weeks supplies and six weeks expense and two months pay-rolls. The average monthly expense at Houston are in the vicinity of \$80,000.00 a month at the present time. That is incidental expenses. Some commissions have used a per cent of the revenue as a basis, but that has not worked out right in all

cases. It might work out right and it might work out wrong. In a recent case in Missouri, I figured it out in this method, the Commission used an arbitrary per cent method and we came

within a fraction of a per cent in the amount of over Seventeen Million Dollars that was involved. That was for the State as a

whole.

None of our collections in Houston are in advance. We bill them in advance but billing them in advance and paying them in advance are of course different. Probably about 40 or 50% of the bills are paid by the 10th of the month, that is, exchange bills. That item of \$69,000.00 here shows the Houston direct item of Accounts Receivable from subscribers. That is no estimate of any kind. That shows that we had on an average nearly \$70,000.00 outstanding on the first of each month or at the end of each month. Now, you take the tolls; you see, we bill on the first of the month for the exchange items, but we are 40 days behind on the tolls, because the toll bill is 40 days behind at that time and by the time they pay the bills you are getting up close to 60 or 70 days behind, when they pay the toll

In showing the Houston Exchange as 14% of the entire investment, that includes toll equipment. That figure Three Million, that includes all property that we carry as exchange property; it does not include any toll outside property. It does not include anything that is used exclusively for toll purposes

with the exception of the Central Office Equipment.

"Q. Well, that is about all that is used exclusively for toll business, isn't it?"

"A. No, you have a total amount of outside business."

"Q. When you say "outside"——"
"A. (Interrupting.) Outside of the central office." "Q. You don't mean outside of the central office?"

"A. No, I mean, outside of the central office, that is what we speak of, outside plant."

This Three Million Dollars includes about \$76,000.00 of toll property. That is the amount of a switch-board, toll switch-board. I have worked out what percentage this working capital bears to

the reproduction cost figure used by Mr. Hoag in his appraisal and

it is 4.2%. In this file of authorities which you have in this case, it shows that the average allowed by commissions and courts in telephone cases has been over 5% of the reproduction cost.

This working capital is not a part of the fixed Capital, it is in

addition to fixed capital.

2459 "Q. In the Exhibit No. 10 which you put in this case, you have total cost of the property as shown by the books on September 3, 1919, as \$4,810,385.40. Then, in your Exhibit on Working Capital, you have book cost of the plant om September 30th, 1919, Houston, \$3,816,587.60. I just wanted you to explain

the difference in those figures."

"A. Well, I have excluded in this Exhibit 41, the intangible capital item. I think that working capital is associated with physical property and I have eliminated the intangible entirely, both from the company figures and from the exchange figures. It wouldn't have made much difference, I could have put them in, but it wouldn't have been strictly correct and I omitted it, that figure Three Million, Eight Hundred Thousand, \$3,784,000.00, plus the furniture and fixtures, tools and store equipment, and the stable and garage equipment." I might mention that this method of allocating working capital to exchanges has been accepted by practically, by all the commissions that we have to deal with in the State- of Missouri, Kansas, Arkansas, and Oklahoma. We have presented hundred- of cases to them in this same form and they have acc-peted them in every case.

2460 Mr. F. M. Hoag, a witness for the complainant, was sworn and testified as follows:

Direct examination.

Note.—The testimony of the witness, F. M. Hoag, as to his qualification, experience, etc., are set out herein on pages 915 to 921, inclusive.

I made an inventory and appraisal of the telephone property constituting the local telephone exchange in the City of Houston. That inventory was started as of September 11th, 1919. The actual field work was started on September 15th, and completed October 15th. The inventory was made as of October 1st, 1919. I have prepared a statement showing just what was done in making the inventory, and I have placed in evidence a copy of the statement as to how the inventory was made.

(Thereupon that paper was received in evidence and marked exhibit No. 12. That Plaintiff exhibit No. 12 is transmitted herewith in exhibit file.)

The inventorying, the counting of the various items of plant which go to make up the Houston Exchange property was a pretty sizable job. The field work was started on September 15th and was com-

pleted as of October 15th, 1919. Attached to this paper is a white paper map which shows the organization of the inventory forces. By referring to that map, you will notice that experienced telephone men and telephone engineers were employed in the making of

the inventory. The work was divided between pole and wire, 2461 aerial cable, underground conduit, underground cable, central office equipment, private branch exchange equipment, sub-station equipment and installations, furniture and fixtures, stable and garage equipment, which includes the motor vehicles, land and buildings.

This chart shows that there were approximately 35 men employed, that is, 35 skilled telephone men employed in the making of the inventory, and most of those men had had previous experience on inventory and appraisal work. The years of service of each one of

the men I have shown on the chart.

Just to indicate, on the pole and wire work I had C. W. Broyles, a Division Construction Foreman, in charge of that work, and he has had 15 years' service with the Telephone Company. Under him, on the pole and wire work, was R. C. Matthews, an Engineer, having had ten years' experience; C. H. Demitz, who was an Installation Foreman, having had twenty years' experience. All of these men were familiar with the property which they were inventorying, and they were selected on account of their familiarity with the particular type of property which they were inventorying.

On the aerial cable work, we had L. E. Cox, an engineer in Houston, who has had 13 years' experience, 13 years' service with the Telephone Company. E. W. Parham, a cable foreman, who has had 13 years' experience. On the underground cable and conduit work, we had Cable Foreman W. H. Ashley, who has worked for the Telephone

Company 14 years, and all of that time on underground cable and conduit work. The same kind of men we used throughout in the making of the inventory. On the Central office equipment and inventory, which is a very difficult job to do, we had ex-

perienced Telephone equipment engineers.

Central office equipment is that portion of the exchange Plant in the central office buildings, such as the switch boards, the frames, the storage batteries, charging generators, and ringing machines. In other words I am speaking of Exchange buildings, such as the Preston Building here and the Hadley Exchange Building. Central Office Building, yes, sir, and the Taylor Exchange Building. On the Private Branch Exchange equipment, which we inventoried on the same basis as we did our Central Office equipment, we also had experienced telephone engineers, that being a rather difficult portion of the plant to inventory. We could not have just picked up any and all kind of men to make this inventory because none other than experienced telephone men could have made it. use some men who were not familiar with the telephone business but they were used to open man-holes and pull tape lines and things of that sort,-they were used merely as laborers.

In explaining how I proceeded in making a count of this property I have some exhibit here that I would like to show in connection

with that.

The Telephone Company maintains in Houston record maps on which are shown the various types of plant which go to make up the distributing system, that is, the poles, wires, cables, conduits, and other portions of the outside plant. Those maps were divided into

sections, each section numbered, and a field man furnished with a particular section in this form. I have a complete copy of one of those maps,—I have them for each type of

plant.

This one shows a portion of the underground cable system. is a portion of the underground cable system in the Hadley central office district. This is section No. 717. That portion of that map would be cut off and placed on a board in like manner as this small section is here. Then attached to that is a Tally Sheet. This was placed in a field man's hands. He went out on the ground and actually counted or measured that part of the property. He entered under the various headings on these Tally Sheets what he found in the making of that count. If he found things that didn't show up on the record map, he entered them on his map and also on his Tally Sheets. In other words we cut this map to pieces and put the various portions in the hands of these men we were using to make the inventory, and they went out and then checked the property in accordance with this map. If we had something on this map which did not actually appear in the plant when they went out there,-if the men didn't find it, it was not entered. The first two or three days a field man was sent out to make his inventory, he was accompanied by experienced inventory engineers, who drilled him very carefully as to how to make his count, how to make his inventory. After that for a considerable length of time a 100% check was made of all his work by these same experienced telephone engineers. I mean that they checked all of his work for a certain period of time. When he had completed one of these sections and turned it in then they would go out there the next day or the day after and check it in detail to see that his inventory was accurate. When the field man's work

2464 Was reasonably accurate, which would be developed of course by that 100% check, then after that a 20% check was made on all of the inventory work done by each field man. These field men did not know what portion of their work was to be checked.

This part shows a portion of the aerial cable inventory, and that is a portion of the underground cable, that is underground conduit and this is pole and wire. Those boards were actually turned over to the field men in that form. They took these pieces of maps and made their check and as they came to each particular item of property they entered it on the map and also on the Tally Sheet,—on both of them, the map and the Tally Sheet. If their map showed that we had a certain piece of property in a certain portion of the town, when the man reached that portion of the town and they didn't find that piece of property it was not inventoried, it was not counted, but if they found a piece of property in a certain locality which did not appear on the map that was included in the inventory, it was counted. That method was followed throughout the inventorying or counting of the distributing system. All poles were inventoried. Ordinarily

the men making the pole and wire count were sufficiently skilled to tell what the size and specification of a pole was, that is, as to its heighth and its dimensions. However, each field man on the pole and wire count actually measured each tenth pole and if there was any doubt in his mind as to the size and heighth and dimensions of the pole, then he measured every pole. In general, the men were sufficiently familiar with that character of material so as to be able to determine from sight what the respective sizes were, but in

a case of doubt they climbed every telephone pole, if they had 2465 any doubt about it at all, they climbed that pole to ascertain its real size, and you will notice on the back of that pole and wire board a specification showing the sizes of poles and their classification, which served as a guide to the men counting or inventorying the poles. The accessories, pole accessories, such as cross-arms, braces, pole steps and other similar items were actually counted. The aerial cables were measured by drawing a tape line along the ground beneath the cable. The men who did the aerial cable work, the aerial cable inventory work, were skilled and could invariably tell the size of the cable. However, if there was any doubt in their mind, they measured the cable, and also, of course, had the records to go by as a guide. The underground conduits and cables were measured by carrying tape lines along the ground immediately above the conduit lines, between manholes and from the man-holes to ther terminus of the subsidiary conduits. That is, they carried a tape measure from one pole to the other in measuring aerial cables. We did not measure that at the top of the aerial cable but simply measured along the ground beneath the cables which did not give accurately the length of cable from one pole to another because an aerial cable when strung is strung with a certain sag. To explain: A telephone cable is leadcovered and it is quite heavy. It is impossible to string it absolutely tight. The usual pole span is about 110 feet. The strand supports the aerial cable after the cable is spliced, sags. The average sag in a 110 foot span for say, an average sized cable, is 8 to 10 inches.

Therefore in measuring the cable by laying the tape line 2466 along the ground, the sag, the additional length of the cable as represented by the sag was not included in the measurements. That has been included in the inventory,—I have included it in contingencies and omissions. That is one of the items going

to make up contingencies and omissions.

The measurements of the underground cable, were, of course, fairly accurate; the distance could be accurately measured between the man-holes, and then all the cables in the man-holes were actually measured, as was also the size of the man-holes. In addition, the type of construction of the man-holes was noted, as to whether it was concrete or brick. The size and kind of cover and frame used on the hole was noted and recorded. All subsidiary conduits, that is, the iron pipes which lead out from the man-holes to buildings or to poles were measured in like manner as to main line conduit and cables, as was also the cables in those subsidiary conduits.

An explanation of a man-hole. Man-holes are necessary in underground cable construction in that the length of cable which can be

placed is limited to about four or five hundred feet. Man-holes are also necessary to permit of distribution being made. It is a sort of a vault or cellar down underneath the ground, so that we can splice our cable together, where the main line cables are spliced together and where the branch cables which lead to the poles and to the building are spliced to the main line cables. The aerial wire was not meas-Instead, the spans of aerial wire were counted and then five hundred spans measured and the total amount of aerial wire in the

plant apportioned on the basis of those five hundred spans that were measured. I think that gave me an accurate measurement of the wire in the City because the length of the pole spans is fairly uniform. Drop wires were measured and averaged in like manner. That is, the drop wires were counted and some four hundred drops were measured to determine what the average length

of all drop wires was.

The distributing system is that portion of the telephone plant connecting the telephone central offices with the subscribers' premises, that is, all of the lines, poles, cables, etc., which radiate out into the City for the purpose of serving the subscribers. It includes the underground cables, the aerial cables, the pole line, the block cables, the poles, the drop wires, the building cables, and everything to the

subscribers' premises.

With reference to how we counted other portions of the plant: The central office equipment,—we maintain records of all our central office equipment in the State Engineer's Office. were brought to Houston and checked carefully and an actual count and inventory made of the central office equipment in the Houston Central offices. All of the cable in the switch boards was carefully measured. When I tell you that there are over 306,000 feet of one type of switchboard cable in the switchboard in the City of Houston, you can appreciate the necessity for carefully measuring and carefully counting all of central office equipment. There were 3,000 sub-stations inspected. By sub-stations I mean telephones, including the wiring and the protector and the ground rod,-that is the lightning protector, which connects with each telephone.

We have a portion of the City of Houston served direct by underground cables and telephones served direct by underground cables don't have protectors, ground rods, and lightning arrestors installed in that wiring is not exposed. We inspected carefully 3,000 of the total of the 27,000 sub-station installations in the City and applied, used that as representing the average of the remaining number of stations. We were very conservative in making those estimates. First, we eliminated all of the telephones which were served by direct underground feed and did not include with

those telephones the ground rods and protectors, that is, the arresters, When I referred a few minutes ago to drop wires I meant the wire which runs from the terminal box on the pole down to the house,in order to reach the subscriber. The drop wire is the wire from the last pole to the subscribers' premises; the line wire is the wire strung along from pole to pole.

With reference to the land, I consulted the Company's records as

to the land which was owned in Houston and also consulted the deeds for such land. Then in addition, I actually measured each lot with a tape line on the ground and checked it against the deeds and against the records. I did not include in this inventory, only that land which is used or usable for telephone purposes. I did include that portion of the property which is used or usable but I have eliminated three parcels of land which are owned by the Telephone Company in Houston and the reason I excluded those was because they are not necessary and are not now being used and cannot be used in the future for telephone purposes, and therefore I did in-

2469 cluded those in my inventory or appraisal.

One of them is a lot and a building which is the old Houston Home Telephone Company automatic telephone office in Houston Heights. The second one is the old Taylor Exchange, Taylor Central office Building, and lot, on the corner of Center and Taylor streets, just off Washington Avenue. The third piece is a small store-room yard or lot owned by the Houston Home Telephone Company on Heiner Street.

I have not included in my inventory any of the toll property. We made a careful inventory of all of the toll property within the Houston exchange area and excluded that from the inventory. We excluded all of the toll central office equipment, the toll test boards, the toll cables, underground and aerial, all of the toll poles and all of the toll work, together with the cross arms and accessories.

We have no toll cable on local exchange poles. We have, however, toll cable in the local exchange conduit lines and that has been cared for by allowing, by crediting the Houston Exchange with the rental value of the duct space occupied by those toll underground cables. That is, I have credited to this local exchange property a rental for that portion of the local exchange property which is being used by the toll property, and we have likewise debited the Houston local exchange with the contact rental charge for certain local wires which are carried on the toll poles. I did not just make up that rental figure myself, that is our standard rental charge made to all wire using companies, like the telegraph companies and oil com-

2470 panies. It is what we call our schedule A, it is our regular charge. In other words, whenever we have toll lines running on local exchange tolls, we credit the local exchange with the same rental which is paid to us by the Western Union Telegraph Company or the Postal Telegraph Company or any other wire Company which is using our poles,—for an amount similar to what we pay to those companies whenever we put our lines on their poles.

With reference to our record inventory here, we made a check to determine whether the inventory was accurate and correct, we made a 100% check, that I spoke of previously and the 20% check was

carried right straight through.

There was no chance for duplication of our properties. If I sent one man out in a certain portion of southeast Houston to do some work and I had another man out in that same territory doing some work, there was no chance of their going over each other's territory and counting the same property twice. You will notice that those

maps that I showed you mounted on the boards have been cut with a pair of scissors and the man only covered that portion of the property which was shown on those maps. He didn't get off that map, and the map being cut that way, there was no chance for duplications.

Other than toll property there is no other property in the City of Houston which is used in the operation of the local exchange which has been excluded from my inventory. I have not included all parts of our telephone instruments in my inventory,—I have excluded the transmitters and the receivers and the induction coils on telephones. I have also excluded the station installations,

2471 that is, the wiring connecting the hotel private branch exchange stations with our underground cables. There are some 2,600 of those, and that wiring is owned by the hotels and therefore it was excluded from the inventory. The reason I have excluded from my inventory the transmitters, receivers and induction coils is because they are not the property of the Southwestern Telegraph and Telephone Company but they are owned by the American Telephone and Telegraph Company, and we are using them under a licensee arrangement. The American Telephone and Telegraph Company owns the patent on those things, and we have a contract with the American Telephone & Telegraph Company,—that is the Southwestern Telegraph & Telephone Company has this contract known as the "Four and One Half Per cent License Contract" by virtue of which they have the right to use these articles, and not being the owner of these particular items of property, I have not included those in my inventory but they have been ex-

Questions by Mr. J. D. Frank: You have a copy of the inventory?

Mr. Howard: Yes.

cluded.

Mr. J. D. Frank: We desire to offer in evidence this inventory and have it marked as Plaintiff's Exhibit No. 13.

(The document was thereupon introduced in evidence and marked Plaintiff's Exhibit No. 13, and said Plaintiff's Exhibit No. 13 is transmitted herewith in exhibit file.)

Mr. Howard: Do you introduce them as two separate exhibits, this explanatory—

Mr. Frank: That explanatory exhibit is No. 12 and this other exhibit is No. 13.

The Master: That was mentioned when I first heard this proposition discussed.

Mr. Howard: I do not know that it was ever undertaken to agree, except at the time of the merger ordinance there came up a discussion and they couldn't get together. The Master asked in regard to some agreed valuation and I said I think the only time whenever an attempt was made to get together on a valuation was when that merger ordinance came up.

Mr. J. D. Frank: I don't know, Mr. Howard: I couldn't say,

I think I can clear up what was in your mind. I think the City has had a check made of this inventory and someone might have made the statement that there might be no contest as to the inventory or as to the quantity of the property, but so far as the value-

Mr. Howard: The City hasn't yet checked it. Mr. J. D. Frank: The City hasn't yet checked it?

Mr. Howard: No, we haven't. We are rather assuming that you have made a correct inventory. We are not disposed to question your inventory very much.

In my inventory I included all of the local property owned by the Telephone Company. We excluded the transmitters and receivers and induction coils on the telephones which were owned by the American Telephone & Telegraph Company. also excluded all of the dead drop wires, that is, drop wires and the wiring on subscribers' premises which was not in use. Our system of accounting is such that when a telephone is disconnected, the drop wires and the wiring on the premises is charged off the books. Therefore, those were not inventoried and not counted. That is, if we had wires on a house that did not have a telephone I excluded that from my inventory. We also excluded the land and the buildings which the Company owns in Houston which are not being used at present or which are not usable for telephone purposes. We further excluded a considerable amount of wiring which we have called "station installations" which are owned by the hotels in Houston for connecting the telephones in the hotel rooms to the private branch exchange switch boards. The Southwestern Telegraph & Telephone Company does not own that wire. There are 2,200 and some odd such installations.

In inventorying a piece of property of this magnitude it is impossible to include everything in your inventory, there is necessarily some omissions. I spoke yesterday of not being able to include in the aerial cable lengths, the sag of the cable in the spans between Thinking about that a little bit, there are approximately 10,000 spans of aerial cable in the City of Houston, and there is at

least 6 to 12 inches of cable in each span, due to the sag, which was not measured. So there is somewhere between eight and ten thousand feet of cable which could not and

was not inventoried.

In looking around over the plant since I have completed my inventory, I have come across things that have been omitted from my inventory. We found in checking up portions of the field count, we found poles, terminals, lengths of cable and other things that were omitted. I will treat those matters when I come to the subject of omission and contingencies.

Mr. J. D. Frank: Mr. Howard, have you a copy of this Chart?

Mr. Howard: This map? Mr. J. D. Frank: Yes, sir.

I have a map showing the organization of the Southwestern Telegraph and Telephone Company in the State of Texas. It shows the territory covered by the Southwestern Telegraph & Telephone Company in this State. This Company operates in the State of Texas. The State is divided into four divisions.

Mr. J. D. Frank: Now, wait just a minute, Mr. Hoag. We desire to offer this map in evidence as Plaintiff's Exhibit No. 14.

(The map was thereupon received in evidence and marked Plaintiff's Exhibit No. 14, and said Plaintiff's Exhibit No. 14 is transmitted herewith in exhibit file.)

Northeast Texas Division, the Northwest Texas Division, the Southwest Texas Division and the Southeast Texas Division. The Headquarters for the Northeast Division are at Dallas, for the Northwest Division at Fort Worth, for the Southwest Division at San Antonio and for the Southeast Division at Houston. A complete division organization is maintained at each of the headquarters. The divisions are in turn divided into Districts, the Southeast Texas Division being divided into the Galveston, Beaumont and Houston Suburban Districts. The headquarters for the District men who handle the Galveston and Houston Suburban districts is Houston and the headquarters for the District men who handle the Beaumont. This map shows the District lines in the Southeast Texas Division, but not in the other divisions.

I have prepared a chart showing the division organization of the Company, this map consists of three pages, showing the Traffic Department Organization, the Plant Department Organization, and

the Commercial Department Organization

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 15.

(The chart referred to was thereupon received in evidence and marked Plaintiff's Exhibit No. 15, and said Plaintiff's Exhibit No. 15 is transmitted herewith in Exhibit file.)

The organization is what is known as the functional organization, that is, the Traffic Department is charged with the operation of the plant, the rendering of service; this first sheet shows the

2476 Traffic Organization in the Southwest Division. That pertains to your operators and the actual handling of telephone calls, the actual furnishing of service to the subscribers. You will notice that there are 1002 employees in the Southeast Texas Division. The Plant Department is charged with the construction of the plant and the maintenance of the property, including plants, buildings, toll lines, the distributing system, etc.

The next one is the Commercial Department who are charged with the responsibility of collecting the money, rendering the bills, doing the book-keeping, etc. We have certain portions of the property here in Houston which is used by this Division organization and that has been included in the inventory, but only a portion of it has been charged against the Houston Exchange. I have made

due allowance in my appraisal for that portion of the property

which is used by the Division Organization.

Now, turning to my inventory. The three main divisions of the Telephone property in the City of Houston are, first, the land and buildings, second, the distributing system, uncluding the central office equipment and the station equipment; and the third is the miscellaneous items, such as furniture and fixtures, tools and store equipment and stable and garage equipment. I have subdivided those three main divisions into eight sections. Number one is land; that is the first section of the inventory. Number two is buildings. Number three is the distributing system. Section four is the central office equipment. Section five is the station equipment. Section six is furniture and fixtures. Section seven, tools and store

equipment. And eight, is stable and garage equipment. 2477 In order that you may better understand the property which enters into this inventory, I have compiled a list of photographs illustrating the various pieces of property. I have a bound

volume of that.

Mr. J. D. Frank: I desire to offer that in evidence as Plaintiff's Exhibit No. 16.

(The voulme was thereupon received in evidence and marked Plaintiff's Exhibit No. 16, and said Plaintiff's Exhibit No. 16 is transmitted herewith in exhibit file.)

I have made an appraisal of this Houston Plant and in making that appraisal I used the inventory as the basis of the appraisal insofar as the quantities of plant are concerned. I took the various quantities and then worked out what each particular item of the property would cost if I were reproducing the exchange.

I have prepared an exhibit showing my unit costs and materials

prices.

Mr. Frank: I believe you have a copy of that haven't you, Mr. Howard?

Mr. Howard: Yes, sir.

Mr. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 17.

(Thereupon said document was received in evidence and 2478 marked Plaintiff's Exhibit No. 17, and said Plaintiff's Exhibit No. 17 is transmitted herewith in Exhibit file.)

The materials prices cover the prices of the materials as used in the appraisal. The unit costs cover labor cost and also the incidental cost. In appraising this property I have used material prices which are an average of 1918-19 prices, which prices are lower than present day prices by from eight to twelve per cent. I made my appraisal as of October 1st, 1919, but did not use the prices which were prevalent at that time, but I used the average 1918-1919 prices. Those prices are from eight to twelve per cent lower than the prices which were prevalent on October 1st 1919, and even lower than that on certain classes of plant. For example, our central office equipment material has increased in price since October 1, 1919, approximately fifteen per cent. That increase in price went into effect as of November 1, 1919 and I have not used prices which were prevailing on October 1st, 1919 and since that time prices have still further increased. As I testified before, the prices which I used were eight to twelve per cent lower than the prices which were in effect as of October 1st, 1919. The prices on my central office equipment are approximately 27% lower than the present day prices. That is on account of this increase on November 1st, 1919. In making the appraisal of this property, estimating the reproduction cost new of the property, I have

been trying to arrive at the present value of the property, and I wanted to be conservative as to the cost and prices which I applied in the appraisal. In addition, I have felt

and still feel that there will be a general stabilizing in so far as business generally is concerned, which will make for increased the efficiency, that is, a greater production, and which should result in some decrease in the cost of work, and in the prices of material. I do not expect any material reductions to be made, either in cost of work or in prices of materials, but I do expect that this general stabilizing will produce some slight reductions, and I have considered those things in the building up of the cost and prices, and in making

up the appraisal.

I am proceeding on the theory that it would require a construction period of three years in which to reproduce this property. I have selected that number of years because, first, that is the economical period of construction, in that to reproduce this property in a less period of time would mean the working of our force possibly three eight hour shifts; that is, either sixteen or twenty-four hours a day. That, of course, would not be economical. Again, even by working a great deal of over-time I do not believe that would be possible to reproduce this property in less than three years. I mean to testify that in my opinion it would be impossible physically to reproduce it in a less period of time.

With reference to whether this property would be reproduced piece-meal or whether the various pieces of property would be under construction at the same time,—about what would have to be done

to reproduce the property is the following:

2480 First, the land for the central office building would have to be purchased. Before that land would be purchased careful studies would have to be made to determine the telephonic development in the town. That is, the determine where the subscribers which you would connect would be located. After that was determined, then you would also have to study your towns to determine where the future grouth would come. Those studies are necessary and are made in the daily exchanges throughout the State. They are necessary to permit of our intelligently engineering and constructing our telephone properties. After those studies were completed then an effort would be made to purchase land as near as possible to the wire center. By getting at the wire center we can effect considerable economies in constructing our plants. After the land had been purchased then architects would have to be employed

to design the buildings, to plan the buildings. Those architects would have to know, of course, the dimensions of the land, and would also have to consult with our engineers, in that they would also have to know, in addition to the dimensions of the land, the equipment which was to be installed in the buildings. After the architects had completed their plans then we would call upon contractors to bid on the construction of the buildings. The contract for the construction would be let and the buildings would have to be constructed, within two years from the time we started making our preliminary studies and investigations in the town. Those buildings would have to be completed at that time to permit us to install our switchboards. At the same time that we placed our contracts for our buildings

the same time that we placed our contracts for our buildings we would also place orders for our central office equipment,

in that it would take about a year to eighteen months to manufacture and assemble the equipment. After the buildings were completed, then the equipment could be installed in those buildings in about a year. It could not possibly be installed in any less time. While the buildings are being constructed and the central office equipment was being manufactured and installed in the building the underground conduits, the pole lines, the cable plant, that is, the distributing system, would also be constructed. necessary to build the underground conduit plant as soon as possible, in that the conduit has to be laid before the underground cable can be ordered. The underground cable is ordered by section lengths; that is, the lengths between man-holes; and the conduit necessarily has to be constructed before the lengths of cable can be ordered from the manufacturer. Simultaneously, of course, with the construction of the conduit, the installation of the underground cables would be carried on, with the pole line construction and the aerial cable, and other parts of the construction of the distributing system. I would say that this three year period of time was most conservative. It is my best judgment that there is nobody other than the Bell Telephone Company that could reproduce this property in three years. That is based on some twenty years' experience and my observation of what other telephone companies do, and my knowledge of what the Bell Telephone Company can do. That is because we already have an organization in existence and better qualified to do that work than outside firms. We have a highly trained and

efficient organization. We know how to do work. We have arrangements with the manufacturers of telephone equipment, ap-aratus and material, which would make it possible for us to get out material and equipment in a very short space of time, and

also to construct the property quickly.

As I stated it would take a year or eighteen months to manufacture that central office equipment because the manufacturers do not earry that equipment in stock. You must remember that this central office equipment in the Houston Exchange represents over \$1,000,000.00, and no manufacturer would carry an investment of that size. All of that equipment is manufactured according to specifications. All equipment and practically all material which

go into the construction of the plant are manufactured under specifi-

eations, telephone company specifications.

I have considered what material would cost in the future in order o do this work. I have given that consideration, but the prices of material which I have used are average 1918-1919 prices, and not prices which may or may not prevail in the future. In my udgment, as I explained before, I am expecting some slight reluctions, and therefore, I feel that the 1918-1919 prices should pply. My judgment to date does not appear to be good, however, n that there have been material increases in the prices since October st, that is, since I have made my appraisal there have been actual

increases in the costs of materials.

483 As I testified this morning, my appraisal was made as of date, October 1st, 1919 and I also testified that the prices of naterials which I used in my appraisal were from 8 to 10% lower han the prices which were prevailing on October 1st, 1919 and has due to a further increase in the price of central office equipment n November 1st, 1919, the prices which I have used in my apraisal were about 27% lower than present day prices,—that is, n so far as central office equipment material is concerned. We have ver \$1,000,000.00 worth of central office equipment in Houston. he central office equipment constitutes about 24%, over 24% of he total cost of the telephone property in Houston, and in arriving t what it would cost to reproduce that particular part of the lant, I have used prices which are 27% lower than present day rices.

The labor costs that have been used in the appraisal are 8 to 0 per cent below the labor cost as of October 1st, 1919. Since ctober 1st, 1919, there has been increases made in rates of pay, that the labor cost as used in the appraisals are 18 to 20% below resent day labor cost. I am speaking of wages of employees here in louston, that is, lime men, cable splicers, installers, central office en and other classes of employees who have to do with the work reproducing the property. I did not know on October 1st, 1919 nat the cost of the materials concerning which I have testified would crease and neither did I know on October 1st, 1919 that the wages of the employees whom I have mentioned would be increased.

184 I have carefully analyzed the cost of work as done by the telephone company; I have analyzed over two and a half milon dollars' worth of work done in Houston in the last five years,at is, telephone work, that is work done in the Houston Exchange. a addition I have analyzed something over five million dollars' orth of work done in other parts of Texas. I have also read the ewspapers, read many technical periodicals, and in addition have insulted with people who have to do with the construction, operaon and maintenance of properties similar to the telephone propty. I consulted with Mr. Neiswanger, the Chief Engineer of the exas Powwe and Light Company, operating some 78 electric light operties in the State, and in addition operating several hundred iles of high-tension lines. Mr. Neiswanger has charge of all the gineering for that company and in addition has charge of the construction of the plants. The material used in the outside portion of the Texas Power and Light Company's plant is similar to that used by the Telephone Companies, that is, they use large quantities of poles, cross-arms, hardware, suspension strand, and similar material to that used by the telephone company. Their central station plant, is, of course, different from the telephone company's property. Mr. Neiswanger has had occasion to carefully analyze costs and prices and his best judgment was that in so far as the distributing system portion of the electric light company's plants were concerned, that prices and costs had increased between 50 and 60 per cent as compared to the prices and costs which prevailed in 1915. In so far as the Central Station portion of the electric light plant is con-

cerned, he had found that the prices and costs had increased in excess of 100%, the reason for the difference being that the central station portion of the plant, that is, the dynamos, generators and other equipment is manufactured equipment. That is true also of the telephone company's plants. The telephone property represents in so far as costs are concerned, or splits up, in so far as the costs are concerned, into about 70% labor and 30% raw material. In other words, a switch board installed in a central office in Houston represents about a 70% labor cost and about a 30% raw The labor costs that I have used are about 8 to 10% material cost. lower than the labor costs which were prevailing on October 1st, 1919. The study which I made first here was with reference to labor and material,-it covered both of those items. The reason I used labor costs lower than the labor cost at the present time was because I wanted to be conservative in my appraisal. I have previously explained my reason for using the prices which I did use on material and said that I expected a general stabilizing of business, which would result in increased production, that is, greater efficiency, which in turn would tend to reduce the prices of material. The same thing, I felt, applied to our labor costs, in that during the war we lost large numbers of people and the efficiency of the force is not so great as it will be in the future, which is due to the fact that the present force that we have are not as experienced as the men that we forme-ly had, and we have had to train these men as we go along to take the place of the experienced men who left and went to

I have talked to various contractors about this matter; I have talked to people connected with the Telegraph Companies and the consensus of opinion of all of those men was that the costs were from 50 to 75% greater and the prices were from 50 to 75% greater than those prevailing in 1915. Most of those men felt about as I did, that as business stabilized we would get greater production, greater efficiency out of the men, and that that would result in some slight reductions as to costs. Neither they, nor we, expect any reductions in the rates of pay. I mean by that, first, I have been connected with the telephone company over 20 years and during all of that time there has never been any reduction made in any rate of pay which was once established. In addition to that, there has been an increase in the rate of pay from year to

year. By "rates of pay" I mean wages and salaries. I have also read various techincal magazines and periodicals which treat of this subject and which give the opinion of the leading economists and leading engineers of the country and the consensus of opinion is that we will probably never go back to pre-war prices and that the present prices will prevail for a period of 15 to 20 years. When I have testified that in my opinion there will be some stabilization of the prices of material and the cost of labor, I was discussing the United States as a whole, and that is my opinion with reference to these matters as to the whole United States, that is what I had in mind. However, I do not expect that stabilization to take place as quickly in Texas as I do throughout the United States, and the reason for that is the considerable oil activities in the mid-continent

field and the northwestern portion of the State of Texas is bringing into Texas something in excess of a billion dollars per year. That amount of money brought into the State is bound to affect prices and costs, is bound to keep up the present high prices and costs. That applies especially to labor costs and I would say that the effect of that would be felt in the City of Houston. It must be felt in the City of Houston. The Texas Company, whose headquarters are located in Houston, are very active in the mid-continent field and we feel it in that whenever the Texas Company wants a good telephone or telegraph man, they take him away from us. We educate him and then they hire him and that forces us to

constantly add to the wages of our employees.

At the time I made my appraisal of this property on October 1st, 1919, I considered that the prices I used were most conservative and that was before I knew that the cost of certain materials would increase and before I knew that it would be necessary to make a further increase in the wages of certain employees of the Company. It was my best judgment and the best judgment of the people I discussed that matter with was that there would be no further material increases in prices and costs. As I thought then and as I say now, the appraisal which I made on that date was very conservative and if I had known of these increases which were to be put into effect I would not have used the same prices which I have used with reference to material and labor costs, I would have used high prices and

higher costs. I think that I have been more than conservative in my judgment as to what prices should be used in deter-

mining my unit costs of material, labor etc.

There is another item that enters into my unti costs in addition to the price of material and the cost of labor, and that is the incidental expense, that is, the teaming and hauling charges. That is included in my appraisal. By teaming and hauling expense, I mean the moving of material on the job, the transportation of men and teaming expense and motor-vehicle expense incident to the placing of aerial and underground cables, the motor-driven pumps which we use in pumping out manholes and other similar things. Our system of accounting as to the cost of work is such that it is possible to determine what the incidental expense amounts to in like manner as it is possible to determine what labor costs are. That system of

accounting is prescribed by the Interstate Commerce Commission, and that is what I have followed. In connection with the analysis made of the several million dollars' worth of work to determine labor costs, an analysis was also made of the incidental expense which was incurred. In other words, our records are such that we can tell jsut exactly how much incidental expense we have incurred in building any particular piece of work.

Mr. J. D. Frank: Your Honor, we will now take up the specific items in this exhibit entitled "Unit Costs and Material Prices." This is Exhibit No. 17, and I would suggest that when we are dis-

cussing any particular item here, if there is any part of this matter which you don't understand, or if there is any part which Counsel for the City do not understand, that they just ask questions about it then, as that will probably save considerable repetition when we come to cross-examination. If there is anything that you do not understand, why just feel at liberty to ask any questions that you desire to ask.

Mr. Howard: All right, Mr. Frank.

The first few pages of this Exhibit are taken up with the index, but they are not numbered. The first heading is "Item," meaning the particular kind of material. The second heading "Spec. No.#, means specification number; that is, the specification number under which the material is manufactured. The third heading is "Unit." That indicates whether it is one pound or one hundred pounds, or one foot or one hundred feet, or a thousand feet of whatever it is. The fourth heading is the "Price." The first items is "Anchor, Everstick," is Anchor Everstick 8 inch." It is called a No. 8. It is an 8 inch Everstick Anchor. I have figured out the price on one particular anchor, the price of the material on one particular anchor of that type. On this sheet, the price on this material, price list sheet, the price as shown here is \$1.03, that is the price of one single 8 inch Everstick Anchor. I got that price; In determining material prices, we analyze the prices of material for Houston covering some million, -over one million dollars' worth of material. The prices were taken from the bills. On page 33 is shown in detail the unit cost of the 8 inch everstick anchor in place. On page 33 that

taken in labor cost, incidentals, material cost, etc. On page 2 of my exhibit the second paragraph covers 22 gauge type "TA" Lead covered, that is, lead antimony sheath, paper indulated, cable. The first item is "15 pair cable." It is manufactured under specification No. 3356, and the price of \$120.50 is the price per thousand feet, that is, the price is 12 cents per foot. I got that figure of \$120.50 from the bills for cable which have been purchased in Houston,—that is what we have actually been paying for cable here in Houston. You understand that is the average 1918-1919 cable prices and not the present day price on that cable.

On page four of my Exhibit the first item there is "Conduit, Fibre," three inch. The price is \$6.92 per 100 feet, or 6 cents per foot, that is, upper duct foot. The 10 pin Fir Cross-Arm Manufactured under specification No. 3838, the price is \$79.13 per 100,

or 79 cents each. Those are not the present day prices. I might add that all those prices are not the prices of that material in Houston. Certain of this material is priced f. o. b. Houston; certain of it is priced at the factory or at the woods. Those things are plainly

shown in the detail of the unti cost.

Page six of my exhibit deals with the prices of poles. The 14th item on that sheet is a 30-foot, Class "B" Northern White Cedar Pole. The pole is covered by specification No. 3254. The price is that pole is \$6.01 each at Escanaba, Mich. I take that price at Escanaba, Michigan because that is the point at which White Cedar Poles, Northern White Cedar Poles are concentrated, and that 2491 is the price at which there was a superscript which the stress of the price of of

2491 is the price at which they are billed. In addition to that price, the telephone company has to pay the freight charges. That is where we get practically all of our poles, and there is no other place where we could get them. There has been a steady increase in the price of poles for the last 15 or 20 years and my explanation of that is that the supply of poles is decreasing and the consumption or demand has been steadily increasing which tends to make the prices higher. I am not sure whether there has been any reduction in the prices of poles since the signing of the Armistice but I don't think there has been. The prices of poles at the present time are materially higher than were the prices of 1915, the price has increased between 30 and 40% in that period.

On the bottom of page 6 is the item of Western White Cedar Poles. The first pole is a 25 foot 6 inch, and the specification is the Northwestern Cedarmen's association; that is abbreviated here as NWCA. The price of that pole \$3.81 as given is the price of that pole f. o. b. Houston. These poles we acquired in connection with the Houston

Home Telephone Company's property.

The next item, Page 7, is creosoted pine poles. The first pole is a 25 foot c, specification 3885, and the price of the pole \$4.53 is the price f. o. b. Beaumont. The reason I figure out the price f. o. b. Beaumont is because that is the way in which those poles are billed to us. We, in addition to the price of the pole, have to pay the freight. There is a creosoting plant at Beaumont and the poles are purchased from the International Creosoting Com-

pany who have a large plant at Beaumont.

We have one item on this same page that is rather an odd item. It is railroad rails. We use railroad rails, we purchase them locally, second-hand railroad steel, and use them in the construction of manholes, as reinforcing for the roof of manholes. The price given of \$2.50 is the price per hundred weight and is the price which we have paid for the rails locally. We purchase those from the railroad here in Houston, from either the street railway or the steam railroads, anybody that we can get the second hand rails from.

On the next page, page 8, we have lead sleeves, all sizes. The price per hundred weight is \$11.11. The sleeves are sold by the pound. We purchase them by the pound. They are not sold by size. In building up the unit costs, you will see that the number of pounds

of lead sleeves is shown.

We talked yesterday of the large underground cable boxes. On page nine we have an item of a 404 paid F. X. box completed without fuses, \$277.60; that is the box itself. I got that price from the bills covering purchases of 404 pair F. X. Cable boxes and that is the average price that we pay for that particular character of property during the years 1918 and 1919 and that is less than present day prices.

On page ten we have the wire, 17 Copper Clad paired insulated wire, an example of which we have on one of these boards.

493 It is a steel core wire covered with copper. That is manu-

factured under specification No. 382 and costs \$15.28 per thousand feet. In the spring following the signing of the armistice there was a considerable drop in copper prices. That is due, I understand, to the considerable quantities of copper which the Allied Governments had accumulated in connection with their prosecution of the war and that reduction in price prevailed from early in the spring until about August at which time the price started going up. It is to-day up to around 23 cents. That may not be exact but it is approximately correct. Copper is a commodity, the price of which has always fluctuated to a great extent. Years ago we have paid as high as 27 cents for copper; ten or twelve years ago we paid as much as 27 cents for copper. If I remember correctly, we paid that for copper in 1908 or 1909. There was always a considerable fluctuation in the price of copper. During the recent war the government fixed the price of copper. The price of copper had gone up to some thing over 35 cents previous to the time the government established a price of 231/2 cents, which was the price of copper at the time of the signing of the Armistice, and immediately after the signing of the armistice, or shortly thereafter, the price of copper went down and that is explained on the theory that a large supply of copper was released, or that is my understanding of it. The prices have gone back up now to about where they were at the time the Armistice was signed. On page 11 of my Exhibit No. 2 there is one item of Booths,

2494 Brownell Booths, that is a No. 10 Booth and the price is \$31.00 each. Another item is silk and cotton switchboard cable, No. 22 gauge, 100 pair and the price is 80 cents per foot; another item is silk and cotton lead covered cable, 100 pair and the price is 53.7 cents per foot. That all comes under the heading of station equipment.

On page 12 we have connecting blocks, Type 6A, the price of which is 45 cents each. We have a similar type connecting up in that little wooden box on that board. We have condensers, Type

21E that costs 75 cents each.

On page 15 of my Exhibit an explanation is made as to the freight rates which have been applied. The first item is poles; Northern White Cedar Poles are shipped from the woods, the originating common point of shipment being Escanada, Michigan. They are shipped to Houston in carload lots and the freight rate per hundred

weight is 51.6 cents. The next statement below that first sentence is,—the actual freight not used as was shown as total freight per

car and not per pole, that is, the freight rates, the amount of money which appeared on the bills as being the freight rates was for the complete carload shipment of the poles and the freight per pole was determined by getting the weight of the poles and dividing the total amount of freight. Also was determined by getting quotations as to freight rates from freight agents, and in that connection in my effort to determine what the freight rate would be from the woods to Houston, Texas, I interviewed the General Freight Agent of the T.

& P. railroad in Dallas and a freight clerk in another freight 2495 office in Dallas. They have the freight rates of course for all of the State of Texas. Those quotations were simply used as a check to be sure that the freight rates which we had applied were correct. The freight rate on creosoted poles from Beaumont is 10.4 cents per pole. I got that information from the bills, I took actual shipments of poles and figured out how much that was, and those were the freight rates which are in effect at the present time. There has been no reduction in freight rates and so far as I know there

Mr. Howard: There has not been any increase, has there, since October 1st 1919?

Mr. J. D. Frank: No, I don't think there has.

have been no increases.

The next item, cabling, in getting the freight rate on that particular piece of property, I took the actual freight rate shown on the bills, except for Types AA and pure lead sheath cable, for the Types AA and the pure lead sheath cable shipped from Hawthorne, Illinois, in carload lots at 61 cents, 61.3 cents. I might say that such pure lead sheath cable as we have in Houston was acquired when we took over the property of the Houston Home Telephone Company, and we secured such prices as we could on pure lead sheath cable and applied those prices. We haven't purchased any pure lead sheath cable for many years and the prices used is a price which would apply seven, eight or ten years ago. I don't think there is any pure

2496 lead sheath being sold at the present time. The price of the cable is the price of the cable at the factory, at Hawthorne, Illinois, in addition to which the Telephone Company has to pay

freight from Hawthorne, Illinois, to Houston.

The next item is Vitrified Clay conduit. The actual freight was shown on the Western Electric Company's bills, otherwise conduit shipped from factory at Brazil, Indiana, to Houston in carload lots, at 43.9 cents per hundred weight. Most of the Vitrified clay conduit which we purchase is manufactured at Brazil, Indiana. Then in addition to the price of that material, we have to pay the freight rates from Brazil, Indiana, to Houston, Texas. Other types of conduit which we have are sewer tile, iron pipe, which in general are purchased locally and I haven't figured out any freight rates for that.

The next item is Creosoted cross-arms which are shipped from Texarkana, Texas to Houston in carload lots at 20 cents per hundred, 20.7 cents. The International Creosote Company has a creosoting plant at Texarkana for creosoting these cross-arms. We purchase

these particular items of property at Texarkana and then pay the freight on them to Houston, Texas.

On miscellaneous material I have not figured out the price of freight on those. On such items as wire strand, hardware, etc., the bills for the material show the prices f. o. b. Houston.

Northern White Cedar Poles. They show the minimum dimensions of Northern White Cedar Poles. In purchasing these poles the producers are furnished with the specifications and the poles have to conform to the specification requirements. The twenty-five foot Class C pole has to have a top circumference in inches of 18¾ inches and has to have a circumference 6 feet from the butt of 30 inches. A 40 foot Class C pole has to have a top circumference of 18¾ inches and a circumference six feet from the butt of 40 inches.

On page 17 of my Exhibit is shown the unit cost of Northern White Cedar Poles by sizes and class. The first item here is a 15 foot C Pole. That follows after "Size and Class." Next comes the weight in pounds, the 15 foot C Pole weighs 100 pounds; the price of the pole is \$1.03. That is shown in my material prices over in the first part of my exhibit. The freight on the poles is 52 cents, which, in accordance with our previous set-up making the total cost of the pole, that is, the material only, f. o. b. Houston, \$1.64, after including supply expense. The supply expense is the expense incident to the making of the requisitions for material. It is the expense of handling of material, the receiving it, the distributing it, the unloading of it from the cars, the handling of it in the storehouses and in the yards, the rent, light and heat at the storehouses. It also covers the shrinkage, wastage, breakage and loss of material while in the storehouses or in the yard. We have a storage

vard in Houston and have men to look after the storage yard, have to have men to unload the material when it is shipped in and to care for it, to disburse it that is, to load it on the teams and send it out to the work. That comes in under supply expense,that is a part of the supply expense. All of the property does not pass through the warehouse or storehouse. The Central Office equipment,-there is no supply expense charged on the Central Office equipment. In making my appraisal of the Central Office equipment I have not included anything for supply expense. There is no supply expense charged to the Central Office equipment. That for the reason that the central office equipment is contracted for with the manufacturers, they to manufacture it and to install it and the Telephone Company does not have to handle that material. Sometimes the vitrified clay conduit pass through the warehouse and sometimes it goes direct to the job. A certain amount of the conduit goes into the warehouse and storeyard, but the greater portion of it goes direct to the jeb. However, there is supply expense in connection with that, it has to be ordered, it has to be accounted for and has to be handled. There was introduced in evidence vesterday or the day before, the uniform system of accounts for Telephone companies as prescribed by the Interstate Commerce Commission.

The Interstate Commerce Commission gives a definition of supply expense. That definition is in section 704, on page 78, "Supply Expense." Charge to this account or to appropriate sub-accounts all expenses (except insurance and taxes) incurred directly

in connection with the purchase, storage, handling, and distribution of materials and supplies and stationery. It includes (1) the pay and expenses of purchasing agents, managers of stores, clerks, and laborers; (2) rents paid for stores; (3) cost of lighting and heating; (4) undistributed transportation charges; (5) discounts recovered through prompt payment of bills for materials and supplies when such discounts cannot be assigned to the particular bills; (6) overages or shortages in the materials and supplies account disclosed by inventories which cannot be assigned to specific accounts; and (7) the estimated depreciation on materials and supplies due to breakage, leakage, shortage and wear and tear."

To go into this a little more fully, the first item set out by the Interstate Commerce Commission here is "the pay and expenses of purchasing agents, managers of stores, clerks, and laborers;" that is applicable to the Houston situation. In considering what it would mean to reproduce this property, I have considered what it would actually cost in the way of supply expenses to handle the very considerable amount of material which would be used. There would be over two million dollars' worth of material, considerably over two million dollars' worth of material on which a supply expense would be incurred. I have estimated that it would require the services of about 15 people to handle those supplies, and that in addition we would have to rent yard space and either construct temporary store

houses or rent store houses. In addition to that, the reason I have used the 6% as our supply expense is that for several years the average supply expense incurred by the Telephone Company has run at approximately 6%. That is what it has actually been costing us in Houston and in the State of Texas to handle our supplies. I have made a careful study from the records of the Company arriving at that expense. The supply expense fluctuates from month to month and from year to year. It is sometimes in excess of seven or eight per cent and has been as low as about five per cent, but the average supply expense has been 6%. At the time we took an inventory of the material in the yard we found that we were short whatever amount of vitrified clay conduit that had been broken and we would have to charge off the supply expense the value of that breakage, the value of that conduit which was broken, As I stated, there is some of our property, some of our material which does not pass through our store-room and on which we charge a supply expense of 6%, because we have to order that material. We have the expense of preparing the requisitions, that is, our superintendent of supplies has to order, has to originate those requisitions and we have to handle that material when it is received. In other words, the storage of this material in our store-room is merely a part of the supply expense. I have taken the average supply expense for all of our material, and have considered the various things that enter into our supply expense and have gotten an average of 6%.

That covers all of the different kinds of material used; that supply expense is not apportioned in our accounting of poles or cables, or other individual items of plant. We actually have that expense here in Houston every day, and that averages I have made a careful study of the records of the Company and have gotten that information and I consider that that figure of 6% is a most conservative figure. I know that other engineers in arriving at their unit costs include this item of expense. They use a supply expense figure of from 5 to 8 or 10 per cent, but in an effort to be conservative, and also in that the supply expense has been 6% for a number of years I have taken 6%. I know what it actually does cost. Then taking the price material and adding thereto the freight on a pole from Escanaba, Michigan to Houston, Texas and then adding a supply expense of 6% you get a total cost of \$1.64 per pole for the 15 C Class. For the 30 foot B pole, which weighs 473 pounds the price of the pole at Escanaba, Michigan is \$8.46, the freight on that pole is \$2.45, making the total cost \$10.91. Adding to that the supply expense makes the total cost of the pole f. o. b. Houston \$11.56. These poles do not all weigh the same. On page 17 you will note that poles vary in weight according to their length and class from 100 up to 850 pounds each. The 15 C pole is listed here at 100 pounds but those poles do not always weigh exactly 100 pounds, that is the average weight that we take and is based on a specification pole. Of course, some of the poles are larger,-none of them are smaller. At the bottom of the page is the following: "Note: Cost of poles at Escanaba, Michigan. Cost of material for butt treatment not included in this unit." I showed you on this board what the butt treatment was. "Labor and Incidental costs for placing and hauling not included in this That is treated in another part of this Exhibit, on page 23. The rest of those pages between page 17 and page 23 are taken up with the price of poles and supply expense and freight charges to Houston on the different sizes and classes of poles. The 30 foot B or thirty foot C class of pole predominates in Houston. On page 17 is the one I spoke of a few minutes ago. The 30 foot C, the weight is 375 pounds. The cost of the pole is \$6.01. The freight is \$1.94 plus the supply expense which makes the total cost of the pole f. o. b. Houston, \$8.43. The 30 foot C Pole, if that be the predominating

set poles in Houston, something like 8,000 of them.

On page 23 of this exhibit is labor and incidentals. "Labor includes the unloading, shaving, framing pole, that is, cutting the pole and roofing it and drilling a hole through it, the locating and digging the hole," the setting up of the pole, the back filling, the temping and the supervision. By the word "unloading" there, I mean the unloading of the poles from the wagons when they are hauled out. A considerable portion,—the greater portion perhaps of the poles are hauled direct to the job. By "shaving" I mean that the poles come with a considerable amount of bark on them and they

pole in Houston and I think it is,—there would be over half the total number of poles in Houston of that class. There is over 8,000

have to be shaved before they can be set. They are shaved with a draw knife. I don't know whether the City Ordinances of Houston require a pole to be shaved before it can be put up in Houston,—I don't know what the Houston City Ordinances are. I know that it is customary for the City to have an ordinance which requires that the pole be straight and shaved.

Mr. J. D. Frank: I think those are the facts, in Houston that the City Engineer requires this shaving to be done.

Mr. Howard: I think there is an ordinance requiring it to be

painted.

Mr. J. D. Frank: Well, that is what I had in mind to develop, the painting of the poles. When it came up, the City Engineer, I believe, stated that all poles should be shaved.

By the term "framing the pole" is meant cutting a roof on the top of the pole so that the pole, which comes with a flat roof, if the pole was set that way, then water would stand on that roof and would cause decay. Therefore, the top of the pole is roofed to drain it and to prevent decay. That is, it is trimmed up so that it is shaped just like the roof of a house. Other framing consists of drilling or boring a hole in the pole and flattening the face or the back so that a cross-arm may be attached. In other words, we cut a little square

place in the pole so that the cross arm will fit in tightly 2504 against the pole. Then, after you have prepared that place to put your cross-arm in, you bore a hole through the pole there so the bolt can go through and attach a cross-arm to the pole. If that framing was not done the cross-arm would not fit tightly against the pole and would get out of line. The locating means measuring and determining the point at which the pole shall be set. The digging of the hole speaks for itself. The setting of the pole means placing the butt of the pole in the hole and raising the pole up into a vertical position. It depends upon the size and the length of the pole and the particular location at which it is being set as to how many men it takes to raise one of those poles but ordinarily about six men are required for that. A long heavy pole set in a location hard to get to might require as many as 10 or 12 men. By "back filling" is meant putting in the dirt after the pole has been put in the hole, and by "tamping" is meant packing of the earth solidly around the pole by means of tamping tools so that the pole will not get out of line. We have particular tools for that purpose. This item of supervision is the extent of superintendence. It includes that amount of money which is chargeable against constructions, that expense of the supervising force up to the General Manager. It includes such items as salary of the Division Superintendent, the General Superintendent. This item of average labor per pole, \$4.30 is the average labor for all of the different kinds of poles which we have in Houston. I arrived at that average by analyzing the cost of pole work. Our accounting is done so that we can-

2505 not determine what the labor cost of a 25 foot pole may be against a 40-foot pole. All labor costs incurred in connection with pole construction are charged to what is our 11-C account; that

is, the pole account. That "C" means construction which is a code that is prescribed in our system of accounting. Those records are made at the time the work is done by the workmen, when working alone; and by the gang boss where there is a gang. He turns in a daily report of the work done, the number of hours which he and his men spent on each kind of work. A gang boss might have a gang of 10 men. They may work five hours on pole constructions and 3 hours on cable construction, and he would turn in his daily report showing what part of the time he has worked on constructing poles, and what time he has devoted to working on the cables, so that when the job is completed we can tell exactly what it cost to set the poles and what it cost to set the wires or stretch the cables or whatever they were doing, but we cannot tell what it cost to set a 25 foot pole or a 35 foot pole or a 45 foot pole. That account is not kept separate as to the various sizes of the poles but it is just taken for the poles as a whole. I am not sure that the average cost for setting a 35 foot pole is greater than it is for a 25 foot pole. This average price that I have here per pole is for setting poles in the City of Houston and that is based on the average cost of doing this work for the vear- 1918 and 1919.

This incidental expenses down here includes teaming, dis-2506 tributing, and other miscellaneous expense items not covered under material or labor. The incidental expense is reported in like manner as is the labor expense. If a team were hired at \$7.00 a day it would be paid for by voucher, and would be reported as incidental expense, and in case that team were used on the pole con-

struction, it would be incidental expense, 11-C.

Street car fare incurred by men who were working on pole work would be reported in like manner. I do not think of anything else in connection with that particular item of expense that I wish to dis-

cuss.

On page 24 of my exhibit I have the unit cost of Pole Line Miscellaneous, which means the painting of Poles and the butt treating of Poles; also the cost in place. The painting per pole requires an average of four pints of paint per pole. The butt treating of poles requires an average of two and one half pints of dead oil of coal tar. The cost of material is shown, plus the supply expense, and the labor cost of painting and the butt treatment, which total gives the cost in place, that is, the total cost of painting the pole or the total cost of butt treating the pole. This figure four under "Painting Pole" is the number of pints of paint required to paint the pole. The figure 2.5 under "Butt Treating Pole" is the number of pints of dead oil of coal tar or carbolineum required to butt treat the pole. The cost of that is shown opposite "Cost in Place." That shows the cost of Painting under the heading "Painting Pole" and over at the

2507 right hand side that shows the cost of "Butt Treating" a pole.

My exhibit shows with reference to the cost of the solution which we use in treating these poles that the carbolineum f. o. b. Houston costs 54½ cents a gallon, or 6.81 cents per pint. Dead oil of coal tar f. o. b. Houston, 38 cents a gallon, or 4.75 cents per pint. Carbolineum is one preparation for treating a pole and dead oil of

coal tar is another preparation. We have estimated that 85% of the butt treatment poles were treated with Carbolineum and 15% were treated with dead oil of coal tar. "Labor" includes the cost of treating and painting the poles and the supervision of doing this work. The incidentals include,—in this case it includes the brushes used in the applying of the dead oil of coal tar and the carbolineum.

Page 25 shows the cost of poles cribbed and poles set up in sidewalks. It shows the poles cribbed with concrete. The cribbing was explained yesterday. The material, is \$10.48, f. o. b. Houston. The labor at \$3.10, the incidentals and the total gives us the cribbing in place at \$15.31. The prices of that concrete and that material

were obtained from the bills.

This item, "Poles set in sidewalks" is explained first, the walk has to be cut before the hole for the pole can be excavated. Then after the pole has been set and the earth tamped in around it, the sidewalk

has to be repaired which requires the concrete and cement, and I have considered the cost in place and the cost of mate-

rial in doing that particular kind of work. We have only applied this cost where we could see that poles had been cribbed. Ordinarily, a pole cribbed with concrete, all of the concrete is below the surface of the ground and you cannot tell whether a pole has been cribbed or not. On two or three poles in making our inventory, we found that the concrete extended above the ground and therefore we included that cribbing. There was a considerable number of other poles cribbed which we could not determine were cribbed at the time the inventory was made. At my heading "Poles cribbed with concrete" I have a little star there and down at the bottom is a little star explaining that 1.6 cubic yards of concrete was used at 6.55 per cubic yard which makes \$10.48 for doing the work on one of these poles, cribbing one of these poles with concrete. I arrived at that figure by determining the size of the hole and estimating the quantity of concrete used. Ordinarily I can tell from the size of a pole as to what the size of the hole was originally and that is what I did in arriving at this figure of 1.6 cubic yards.

The next item, page 26, is "Unit Cost—Pole Line—Accessories." That shows the cost of wood and iron pole steps per 100 steps. I have figured out the cost of galvanized iron steps, f. o. b. Houston cost 7.377. The total material cost of the step, of the 100 steps with the supply expense included is \$7.82; the labor is \$5.25. The labor is the labor of placing the steps on the poles and I figured that it

cost \$5.25 to put 100 steps of those galvanized iron steps on poles. In placing the pole steps, the pole has to be drilled;

that is, a shallow hole has to be drilled; then the step is driven in, one end of the step being fettered like a fettered drive screw. The step is driven almost all of the way in and then turned about three times so that it will stay in the pole and we estimated the amount of time required to step a pole and applied those estimated costs.

The wood steps f. o. b. Houston are \$2.23½ per 100. The nails—we use a long wire nail to attach those steps to the side of the pole, cost \$1.162 per 100. The total cost of the material, including the

steps and the nails is \$3.60. The labor of placing the steps is \$4.35, which added to the incidental cost, makes the total cost \$9.10, or 9.1

cents per wooden step in place.

The next item on page 27 is "Pole Line Accessories—Cross Arms." "Cost in place." The 10 pin arm is the arm generally used. The cost of that arm at Houston is 79.1 cents. The miscellaneous material that goes with the arm is 86.6 cents. The miscellaneous material is the braces and bolts, making the total cost of the material with the supply expense included \$1.756. The labor of attaching the cross-arm is \$1.05 which with, the incidental expense added makes the total cost of the arm in place \$3.156. We have some 5,500 of those cross-arms in Houston, of different sizes, and the average that

I have used here is the average cost of putting a cross-arm on. We have determined the cost of each cross-arm of each par-

ticular size and there is quite a little difference in the cost of the material. The 4 pin cross arm costs 32.9 cents f. o. b. Houston, the miscellaneous material that goes with it costs 47.6 cents, which with the supply expense added makes the total cost of the material The labor cost of placing a 4 pin cross arm has been estimated at 75 cents, which with the incidental expense added makes the total cost of the 4 pin arm in place \$1.80 as against a cost of \$3.15 for the 10 pin arm. I have been speaking of the fir cross-A 10 pin creosoted cross arm f. o. b. Houston costs 76.1 cents. That is not f. o. b. Houston, that is f. o. b. Texarkana, with the freight added which amounts to 11.3 cents plus the miscellaneous material which goes with it, the braces and bolts, etc. amount to 86.6 cents and adding to that the supply expense, makes the total cost of the material f. o. b. Houston \$1.844. The labor for placing a 10 pin creosoted arm has been estimated at \$1.05, which with the incidentals added, makes the total cost of the creosoted arm \$3.24.

The cross-arms on page 28 are double cross-arms. Where a number of wires are terminated, a single arm ordinarily will not hold the wires and therefore two arms are placed. Those arms are bolted together so as to make them strong and rigid. That is the type of arm which is dealt with on this page. That is the two cross-arms

bolted together and we call those double arms. I show on 2511 this exhibit the cost in place of those particular kinds of cross-

arms. The 10 pin double arm, the fir arm, the cross arms f. o. b. Houston are \$1.522. The miscellaneous material that goes with those arms is \$2.13½, which with the supply expense added makes the total material cost \$3.94; the labor of placing those arms is \$2.45 which with the incidentals added makes the total cost of the

double arm in place \$7.09.

Page 29 also has reference to cross-arms. That is miscellaneous material. On the previous pages I spoke of miscellaneous material costs. Page 29 sets out in detail what the miscellaneous material is that goes with the cross-arms. The msicellaneous material required with a 10 pin cross-arm consists of 10 1½ inch by 8 inch locust pins. It requires 11 6-D nails to fasten the pins in the cross-arms. It requires a cross arm bolt, that is, a bolt which is placed through the center of the arm and through the pole to hold the arm in place.

It requires 2 ½ inch square washers. It requires 2 ¾ inch by ½ inch carriage bolts. Those are the bolts that are used to attach the braces to the arm. It requires two ½ inch round washers. Those are the washers that go under the head end on the carriage bolt. It requires one lag screw, which is used to fasten the braces at the pole and requires two 30 inch braces. Those are the braces which extend from the pole out to the arm to help hold it in place. All of the miscellaneous material for a 10 pin arm totals 86.63 cents.

I have figured out the actual cost of each item of the mis-2512 cellaneous material. The last figure under each column

shows the total cost of that miscellaneous material.

On page 30 of my exhibit I treat the miscellaneous material necessary in connection with double arms. That is treated the same as

the other miscellaneous material.

Page 31 shows the cost analysis of back braces and brackets, the cost in place, each. The back brace is an iron brace used where you have a considerable strain on an arm and is placed as a reinforcement to the arm. The cost of the 9 foot angle iron galvanized back brace in Houston is \$1.28. The miscellaneous material which goes with it costs 12.4 cents, which with the supply expense added makes a total cost of \$1.4844. The labor cost of installing an angle iron back brace has been estimated at 75 cents, which with the incidental cost added makes the total cost of the back brace in place \$2.33. You will note on each of these pages immediately below the total cost in place an entry "Cost used." That means the cost used in the appraisal. Many of those items total fractions of a cent and those fractions have been eliminated in applying these costs in the appraisal. If it is less than half a cent I knock that off and if it — more we add it. In this particular case we eliminated the .44 cents.

Page 32 is a detail of the miscellaneous material used in connection with the back braces and with the brackets, which shows how we arrived at the cost of the miscellaneous material.

The miscellaneous material that makes the back braces consists of four 3% inch by four and one-half inch carriage bolts, and four round washers, and the total cost is 12.04 cents.

Page 33 is a continuation of our pole line accessories. This page deals with anchors, that is, anchors without the guys attached.

One kind of anchor which is used is the Everstick patent anchor, a sample of which we have on the board. The cost of the 8 inch Everstick anchor is shown on the first page of your material sheets. The cost of the rod that goes with that anchor is shown here as .793 cents. The miscellaneous material which goes with it is \$1.03, which with the supply expense added makes a total cost for all the material of \$1.93. The labor cost of installing it is \$2.25. To install an Everstick anchor, it is necessary to bore a hole in the ground at an angle in line with the pole which is to be guyed to the anchor. A large dirt augur is used for that purpose. The hole is bored about seven feet deep. After the hole has been bored the anchor is inserted, the Everstick anchor proper being placed solidly against the bottom of the hole. A heavy tamping bar or digging bar is then used to

expand that anchor, that is, to drive the two sides of the anchor into the firm earth on either side of the hole. After that is done the hole is filled and tamped. And that is what is meant by the \$2.25 labor cost. It depends wholly upon the character of the earth as to the average time to put one of those anchors in place in the

average time to put one of those anchors in place in the 2514 ground. In a heavy, black, dry gumbo it might take a man half a day. In clay soil a man might install one in a hour, or even in 45 or 30 minutes. I have taken the average cost of doing this work. I have estimated that cost by consulting our records as to what it has actually cost in Houston for doing that kind of work. Compared with the cost of doing this kind of work in other parts of the State, as to whether that is a low or high figure, well, this is rather a large state, and you have many different kinds of soil. All excavation work in Houston is quite expensive on account of the kind of soil, and on account of the large amount of water in the soil, and the considerable rain fall here.

Page 34 also deals with anchors. That is the detail of the miscellaneous material, which go- with the anchor. I figured that out just as I figured out the cost of miscellaneous material in connection with the cross arms. All of the costs are built up in detail, showing

how they were arrived at and what they are.

The item treated on page 36 is line guys. That is the guy wire only, cost in place. One item there is a 6-M strand that is a 5-32 inch suspension strand with a strength of 6,000 pounds. The cost of the strand f. o. b. Houston is \$1.82, which, with the supply expense added makes the total cost of the material \$1.93. The labor cost of placing that guy is \$2.75. To place such a guy it is necessary to employ skilled linemen, who have to climb the poles, who have to place around the pole at the place where the guy is

to be attached a strain plate, and usually guy hooks. The strand itself is very stiff and hard to handle. It is difficult to wrap it around the pole. After it has been wrapped around the pole it is then made up; that is, the end is fastened to the guy proper by means of a three bolt buy clamp. The same process takes place where the guy is dead ended on the succeeding pole, a line guy being a guy which extends from one pole to another. The total cost in place of one of those line guys is \$4.98. We cannot use just ordinary labor in doing that kind of work. That requires skilled labor, and requires special tools for handling that steel strand, and requires blocks and tackle to pull the strand up. It simply cannot be laid up. If it were it would not do the job for which it is placed, for which it is intended. That is, it would not hole the pole for which it is to be the guy. Therefore, a set of block and tackle has to be used to pull it up, and the salary of the men who do that work is considerably in excess of the salary of the ordinary laborer.

Page 37 of my Exhibit shows the unit cost of pole line accessories, and covers guy clamps, strain plates, poles, shims, guy hooks, and strain insulators. A pole shim is a form of strain plate. The present strain plate which is used is this small galvanized piece of metal, about four inches wide, by eight inches long, a sample of which I have on the board. Before we used that type of strain plate, we

used other kinds of strain plates, which we have called pole shims, and that is what they were generally called years ago. The guy hooks are the hooks placed on either side of the pole to hold the guy strand in place, to keep it from slipping down the pole. The strain insulators we saw in one of the photographs yesterday, where we had a guy on private property, with a strain insulator in it, where the guy was exposed to electric light wires.

A 3 bolt galvanized guy clamp, f. o. b. Houston, costs 21 cents. The strain plate of 4 inch by 8 inch galvanized iron costs 17.12 cents. The pole shims costs 2 cents; the guy hooks, galvanized, cost 12.64 cents, and the strain insulators 14.77 cents, and I have added on to the cost of the material the supply expense of 5% and that gives the

total cost of it.

On page 38 is an item "guy guards." A guy guard is a-it might be best described by calling it a wooden box, or an iron box or pipe, which is placed around the guy wire at the ground line. The guy wire is small and is a little hard to see, and the guy guard is placed to prevent people running into the guy wire. It has been the experience of the Company that where they do not have these guy guards they have a good many accidents, people running into them, and even with wooden guy guards and the guy guards painted white they sometimes run into them. The three piece wood painted guy guard, f. o. b. Houston material costs 60.7 cents. The miscellaneous material in connection with that is 4½ cents, which with the supply expense added makes the total material cost 69.1 cents. The labor of installing a guy guard is 65 cents, which with the incidental

expenses added of 25 cents makes the total cost of the guy

guard in place \$1.59.

We have in the Houston plant approximately 990,000 feet Fifty pair cable per 1,000 feet, f. o. b. Houston is of aerial cable. \$191.90 and the cable loss per thousand feet is 1.91 dollars (\$1.91). What I mean by cable loss is this: I have explained how cable splice is made. The two ends of the cable are brought together and overlapped about two feet. Then to make the splice the workmen strips the lead off the cable and connects the wire on the right to the proper wire on the left. He necessarily cuts half of the wire coming from either way, and in making the estimate of this loss we have credited the cost of the cable with the junk value of the copper and the lead which are removed when the splice is made, and have figured the loss as representing the difference between the cost of the cable new-that is, we charge the difference between the cable new that is cut off in the making of the splice, and the salvage value. We have instructions which we issue to employees which are designed to prevent the waste of that material. We are very careful. The lead and copper, of course, have a considerable junk value and we are careful in getting that into our warehouses so that we can sell it. We try to get the men to take care of it.

The miscellaneous material per thousand feet of fifty pair cable Add to that the supply expense makes the total material cost for fifty pair cable per 1,000 feet f. o. b. Houston,

\$211.52, or a cost of \$21.15 cents per foot. We have approximately 990,000 feet of aerial cable in Houston.

Page 40 is similar to page 39, with reference to an analysis of cost, it is a different size and different kind of cable. I have treated our miscellaneous items of expense which go along with that cable on This is the miscellaneous material per thousand feet of the material. First, we have estimated the number of splices per 1,000 feet of cable, and in the case of fifty pair cable we have estimated 21/2 splices per thousand feet. That estimating is quite accurate, in that our aerial cable records show where the splices are in general. The material in the case of the fifty pair cable consists of fourteen and a half pounds of lead leaves, necessary to make those splices, that cost \$1.61. That is not \$1.61 per pound but the total. The muslin which is used to wrap around the wire splice after it has been completed and before the lead leaves has been placed over the splice, we use one and one fourth yards of, which cost 261/4 cents, the cost of the muslin being 21 cents per yard. We could not use a cheaper cloth than that because a cheaper cloth will tear after the wires are spliced together they bulge out larger than the lead there, and strong cloth has to be used to bind those wires together and make them as small as possible before the lead sleeve is placed over

the splice. Then six pounds of solder would be used in mak-2519 ing the joints. That is for the purpose of closing up the lead sheath on the cable at the place where the splice is There are two wiped joints at each splice. The cost of the solder would be \$2.2272. There would be four pounds of paraffine used in boiling out that splice. The splice is boiled out twice and sometimes three times, and the cost of the paraffine would be 44.32 cents. There would be 11/2 gallons of kerosene used in the furnace to heat the paraffine and to heat the solder. We use a kerosene stove for the purpose of heating this, and in as much as all of this work is done out in the open air we have to have a special type of kerosene furnace with which to heat our solder and our paraffine. There would be four pasters used, which would cost 68/100 of a cent. The pasters are pieces of paper which are wrapped around the lead sheath of the cable and wrapped around the lead sheath, which is placed over the splice immediately adjacent to the point where the whipped joint is to be made. That is done to prevent the hot solder from adhearing to the lead excepting at the point where the joint is to be wiped. There are 270 5/32 inch cotton sleeves used, at a cost of 12.9 cents. Those cotton sleeves are used to cover the wire at the point where it is spliced, and they make the insulation of each wire continuous.

There are 8/10 of a pound of tallow candles used. That is used as a flux on the lead sheath and on the lead sleeve at the point that the joint is wiped, at a cost of 1.16 cents. There is 2/10 of a pound of soft soap used per 1,000 feet that being used at the time

2520 the cable is placed. There are 25/100 feet pf marlin used, at cost of four cents, the marlin being used to tie up the cable we splice. Marlin is a heavy twine, treated with a preservative. That makes the total cost of the fifty pair cable, of the miscellaneous material per 1,000 feet \$6.4479.

Page 47 of my Exhibit is the Unit cost of aerial cable, and is an

analysis of the freight per 1,000 feet of cable, and taking again the fifty pair cable the cost f. o. b. factory is \$200.00 per 1,000 feet. I am speaking of fifty pair AA, 22 gauge. The cost of that cable f. o. b. the factory is \$200.00 per 1,000 feet. The shipping weight of that cable is 1,755 pounds, which includes in addition to the cable itself the weight of the reel, the large spool on which the cable has to be wound, and includes the lags placed on the outside of that reel to protect the cable. The freight at 61.3 cents per hundred weight is \$10.76, making the total cost of fifty pair 22 gauge cable, f. o. b. Houston \$210.76. I have figured that freight from Hawthorne, Illinois to Houston, Texas. After the cable is taken off of the reels those reels are returned, if in good condition, to the factory. The reels are charged to the Telephone Company at the time they are shipped out and the Telephone Company is in turn credited with the value of the reel when it is received back at the factory. All of that on page 47 is an analysis of the freight per 1,000 feet of various type of cable.

On page 48 of my Exhibit is shown the unit cost of aerial cable, the labor and incidentals. The labor includes the boring of the holes in the poles to place the bolts on which the hangers are supported, which in turn supports the suspension strand, which holds the cable; the placing of those bolts, and of the washers and clamps, the placing of the messenger strand and of the cable rings, that is, the rings in which the cable itself is suspended from the messenger wire; the setting up of the cable reel, the removal of the lags from the reel, the greasing and the pulling of the cable, the splicing and testing of the cable, splicing terminals to cable, and the necessary supervision. That amounts to 9.9 cents per foot, and that labor cost represents the same thing as the average cost applied to poles represents, in that our accounting is so handled that we cannot determine, or we cannot differentiate between the difference of the labor cost of 25 or 50 from 100 pair, or any pair cable. But this is the actual cost per foot of stringing this cable. The item of incidentals includes the deliver of the cable, the messenger strand, of the bolt, of the clamps, and other hardware splicing and other material and tools, returning empty reels and other tools to the storehouse or yard, and all teaming and miscellaneous expense not included under material or labor. That amounts to 9/10 of a cent per foot of cable. The total labor and incidentals amount to 10.8 cents per foot. The total labor and incidentals of the underground dips amounts to 20.1 cents per foot which is higher than the aerial cable. Included in that cost is the cost of laying the

2522 aerial cable. Included in that cost is the cost of laying the pipe up the side of the pole and placing of the pipe underground, and the second pipe up the succeeding pole.

I now turn to page 49 and will give you an analysis of the cost of constructing the messengers. This is material only. In that the labor cost as applied to the aerial cable covers the cost of the placing of the strands themselves. The material cost per 1,000 feet of 6,000 pound strand is \$20.47. The miscellaneous material that goes with it is \$2.84, which with the supply expense added makes the total material cost \$24.71 per 1,000 feet, or 2.47 cents per foot.

We have miscellaneous material which accompanies the construction of these messengers. The miscellaneous material that goes with the 6,000 pound strand is a suspension clamp, one bolt, which costs 70.35 cents per 1,000 feet. The suspension clamp, the three bolts, costs 65.4 cents per 1,000 feet, there being three of those used in 1,000 feet. The 2½ inch square washers, of which there would be twenty used per 1,000 feet, costs 46 cents. The "A" bolts used, of which there would be ten, cost 87.8 cents per 1,000 feet; making the total cost of the miscellaneous material \$2.8375 per 1,000 feet of strand.

On page 51, cost of labor and incidentals of the aerial cable. That is on messenger extensions. We have included the cost of placing the suspension strand, but where aerial cable is not placed,

2523 that is, where they have messenger extensions shown on page 51, then we have considered the cost of placing the messenger, the extension, strand itself only, and that labor cost is 1½ cents per foot of strand, which includes boring holes, bolts, washers and clamps, and placing strand, and the necessary supervision. The incidentals include the delivery of the messenger strand; that comes on reels; the delivery of the bolts and clamps and the other material,

and the tools necessary to place it.

We have been figuring out the cost of miscellaneous material in connection with the poles, and also miscellaneous material in connection with the cables. I have samples on that board. This is a strain plate, a four by eight inch galvanized iron strain plate. These are different kinds of suspension strands, and also are used as messenger strands, or as guy strands. This smaller strand is a 6,000 pound strand; that is, it has a tensile strength of 6,000 pounds. The next size is the 10,000 pound strand, and the next size is the 16,000 pound strand, the 16,000 pound strand being used for supporting large size cables, and for holding heavy strains when used as a guy. This is a "B" bolt; that is, it is a double unit bolt. This is an "A" bolt, that being a single unit bolt. I spoke of an "A" bolt in connection with the suspension of the fifty pair cable. The bolt would be placed through the hole; a 21/4 inch square washer would be placed beneath the head of the bolt, a second 21/4 inch square washer would be placed on the opposite side of the pole, beneath this

this hanger, or one of these hangers, anyway, because on the fifty pair cable it would be this small single hanger. That portion of it would go right on the bolt, then the suspension strand would be placed in this hole in the hanger, and this nut turned down, and the hanger would clamp the suspension strand. This is a thimble. When the guy is fastened to the anchor rod, that is the anchor rod, and this is the eye of the rod, where the guy strand is fastened. This thimble is inserted in the eye of the rod and the strand bent around it. That is done to prevent the constant vibrations wearing through the strand. With the 16,000 pound strand this large thimble is used. This is an iron bolt, the end which goes into the pole is threaded, like a fetter drive screw. It is partly driven and then turned in. This is a wooden pole step, and these are the nails used

for fastening the wooden pole step to the pole. Those nails are about six inches long. This sixty penny is six inches long. This is a 2½ inch square washer, which is used against the poles, on the bolts. This is the three bolt guy clamp which is used on the strand to make it up, to fasten it where it is carried around the pole. This is a bracket, placed on the pole of on a house. The paired insulated wire is supported on this small portion of the knob, which is on the bracket, and tied. There is always some vibration, and it is, therefore, necessary to support the two wires which make up the pair of the insulated wire. Those wires are not tied on each side of

that knob. The it alated wire tie is made on one side. bare wire when placed on an insulator is tied on both sides. This is a guard which is placed on the side of a pole where there is a considerable off center pull. A heavy aerial cable which is suspended on a messenger, the messenger in turn being fastened to the pole with one of those clamps, the pull might be away from the pole. If we had a very large cable, say weighing about 5 pounds per foot, if anything happened so that strand got loose and dropped the cable, it would probably do a great deal of damage. So where we have a heavy pull we place one of those guards. Then, if anything happens to the hanger, if the thread on the bolt strips, this guard we expect to hold the cable and prevent it from doing any damage. All of those items are miscellaneous material, used in connection with our pole construction. There is one other item of material that I spoke of two or three times, which is small, but quite important. That is a dowel pin, which is inserted in either end of a vitrified clay duct. There is a little collar on the pin. There is a hole in the wall in the end of the vitrified clay duct. This little collar prevents that dowel pin from going away back in the hole, so that half of the pin goes into one length of duct and the other half of it goes into the other length, and that helps to maintain the two lengths of duct on the same level.

On this other board here I have some of the miscellaneous items of material used in connection with cable construction.

These are rings which are placed on the suspension strand to support the aerial cable. This is the large sized ring used for large aerial cable. The cable lies in the ring in that manner (illustrating). These are smaller sizes. This is a different type of cable This portion of the ring is placed over the strand and clamped, and the cable lies in here. These are smaller types. This is a galvanized iron pipe, used as subsidiary conduit. This is solder used in wiping joints. This is a wooden pin, which goes into a There are ten such pins in a ten pin arm. This is a galvanized iron cable rack, which is placed in a man-hole to support underground cables. Immediately above that rack is a cable han-That hanger hooks into this rack, and it extends out at right angles to the rack, and the cable rests on the hanger. These are clamps used for clamping the cable in buildings or along the outside walls. The clamps are also used to support cables in man-holes, on poles and other places. There is a hole down here which permits us

to place one of these rings to carry block wire which may parallel the cable line.

On page 52 of my Exhibit is miscellaneous aerial cable material. clamps, strain plates and shims, and safety straps. First I might say that the cost of placing this material, the labor cost, is included in the cost of placing the aerial cable. On this particular sheet only the

price of the material is shown. We have one item here of a three bolt clamp; the price f. o. b. Houston is 21 cents, which with the supply expense added makes the total cost of a three bolt clamp in Houston 22.3 cents. The four by eight inch galvanized iron strain plate costs 18.2 cents, f. o. b. Houston, including the supply expense. I have a note down here saying "No. 1 safety strap includes cost of two drive screws." Those screws are used to fasten

On page 53 is shown "Rings and Hangers." The large wire ring that was just shown on that board was a three inch Neverslip ring used for supporting aerial cable. Those rings cost \$20.17 f. o. b. Houston,—that is, per thousand, which with the supply expense added makes a total cost of 2.14 cents per ring.

the safety strap to the pole.

Page 54 is Aerial cable, different types of terminals. We have shown a No. 14 type, galvanized, 16 pair terminal on our board. That is sometimes called terminal blocks, but improperly so. It is the terminal. Terminal blocks means just that in large blocks. The 16 pair galvanized cable terminal is known as the 14-C. cost of the terminal f. o. b. Houston is \$6.01. The miscellaneous material that goes with it costs \$2.86 which with the supply expense added makes \$9.40, total material cost. The labor cost of placing the terminal is 40 cents. Skilled labor has to be employed to place those terminals. They have to be mounted on the pole at a

certain distance from the aerial cable. When mounted on buildings they have to be mounted at a certain height and in a certain location in relation to the cable. The incidental expenses added to the labor and to the material makes a total cost of 14-C 16 pair terminal in place of \$9.88. We have about five thousand of

those terminals in the Houston plant.

Page 55 and also page 56 is with reference to the same class of property. Page 57 shows the miscellaneous material that goes with the Cook type of terminal. In that miscellaneous material there are 2.2 pounds of lead sleeves, used for the terminal splice. There is half a yard of muslin used; 31/2 pounds of solder, 21/2 pounds of parra-fine, a gallon of kerosene, 2½ pasters, 55 cotton sleeves, 6 style A bridle rings, those bridle rings being installed when the terminal is installed, and to carry the wires leading out from the terminal; two long saut clamps, two galvanized screws of one type and four of another, three tenths of a pound of candles, and fifteen feet of marlin, making a total miscellaneous material of the cost of \$2.8568, that goes with the terminal. We have figured that the average terminal splice is a splice into a 100 pair cable. That note on the bottom of this page 57 is worded: "Average 100 pair splice per terminal—all size terminals." We have terminals in 25 pair, 50 pair, 200 pair, 300 pair, 400 pair, and 600 pair cables. There are two wiping, and the 50-50 is soldering; that is, soldering with an iron. The wiping material is coarser than the other metal.

The 40-60 solder is 40 per cent tin and 60 per cent lead. The 50-50 solder is 50 per cent tin and 50 per cent lead. You cannot

wipe a joint with the 50-50 solder. The tin runs.

On page 59 of my Exhibit I treat No. 61 protectors, which is a lightning protector used to protect the plant against lightning. That is not the type of protector which we saw yesterday, the kind used in residences. The protectors generally used in residences is the No. 58 type. There are other types, but that is the one generally This is a protector which is placed at the end of an aerial cable, at the point where the open wire enters the cable, and prevents lightning going into the cable and burning it up. The protector mounting costs \$3.40; the protector block, No. 19 blocks, cost 50 cents; No. 20 blocks, 50 cents. The micas, No. 11, cost 55 cents; the carriage bolts, used for fastening the protector and mounting, cost five cents; which with the supply expense added makes a total cost of a No. 61 protector, amounting, including the equipment, to \$5.30. The labor cost of placing this is 50 cents, the incidentals cost 13 cents; making the total cost of the No. 61 protector in place \$5.93. The No. 61 protector is mounted out on the cross-arm. It requires skilled labor to place them.

On page 61 of my Exhibit I have an analysis of the cost in place of bond wire. Bond wire is wire connecting our under-

ground cables with the negative bus bar at the Houston Electric Light Company's Plant. It is a bond wire installed to return to the Houston Electric Light Company the stray electrical currents picked up by our underground cables. We have some 211,000 circular miles of stranded return wire here in service, and 259,000 circular miles stranded of cable. The cost of the 250,000 f. o. b. Houston is \$294.80 per 1,000 feet. The miscellaneous material is \$1.45 which, with the supply expense added, makes \$314.03 per That is a very large stranded copper wire with a heavy waterproof insulation. The labor cost of placing is \$30.00, which with the incidental cost added makes a total cost per 1,000 feet of \$345.53, or a cost per foot of 34.6 cents. That is used only where needed to return the stray electrical currents which our underground cables pick up to the electric Light Company's Plant. of \$30.00 for labor is explained by reason of the fact that is a very heavy wire to handle. That wire is strung aerially along the poles to the Light Company's plant, and is connected through a subsidiary pipe into one of our man-holes, at a point close to the Light Company's plant. It is run both underground and aerially. There is some miscellaneous material that goes along with that bond wire, and that is complete on page 61. We have only a small amount of that wire in the plant.

On page 64 of my Exhibit I have "cost of line wire in place." No. 17 copper clad twisted pair wire, of which we have over 2,000,000 feet in the Houston Plant. The wire cost \$15.28 per 1,000 feet f. o. b. Houston. The miscellaneous

material cost 56 cents per 1,000 feet, and with the supply expense added the total cost gives \$16.79 as the total cost of the material. The cost of placing is \$6.35 per 1,000, which, with the incidental expense added makes the total cost of the wire in place \$24.34 per

1,000 feet, or approximately 2½ cents per foot.

An analysis of miscellaneous material is shown on page 65. the No. 14 bare iron line wire we use exchange line insulators. Those are small, pony, glass insulators, which screw on to the pin in the cross-arm, to which the bare wire is attached. The iron tie wire The total cost is used in fastening the line wire to the insulator. of the material is \$1.96 per mile of wire. There are 2,135,000 feet of No. 17 twisted pair line wire in the plant. That wire is supported on 12,142 iron brackets. On each bracket there are two 4 groove knobs, making a total of 24,284 knobs at \$21.24 per 1,000. are 934 iron brackets with one 4 groove knob, at \$21.24 per 1,000, making \$19.84. The 24,284 knobs at \$21.24 per 1,000 makes \$515.80. There are 20,055 No. 4 knobs, which are attached to the pole on a cross arm with a 3½ by 20 flat head screw, No. 20 flat head screw, which costs \$11.56 per 1,000, making a total for these To go with those are 20,055 screws at \$12.58 per 1,000, of \$231.84. making a total cost of \$252.29. The total cost of that material is \$1,019.77.

Page 66 shows the cost of drops in place; that is the wire 2532 from the pole to the subscriber's premises. The No. 17 twisted pair wire costs f. o. b. Houston \$1.42. The miscellaneous material that goes with it costs 10 cents per drop which with the supply expense added makes a total material cost of \$1.61. The labor per drop is \$1.06, which with the incidental cost added makes

\$2.97, total cost of drop in place.

Page 67 shows the items of miscellaneous material that goes along with those drops. The number 4 porcelain knob costs \$1.16 per 100. The No. 16 three inch flat head screws cost \$1.26 per 100. The house brackets cost \$6.11 per 100—a small, galvanized iron bracket. The stove bolts with which to fasten the brackets cost \$1.07 per 100. The two groove porcelain knobs cost \$2.12 per 100. The 1½ inch No. 14 wood screws cost 41½ cents per 100. The number of units of each of those kinds of material is shown under the heading "Twisted Pair," and the total cost of 10.31 cents is shown also under that "Twisted Pair."

On page 70 immediately under the "vitrified clay multiple tile" heading is a second heading, showing the number of ducts. Opposite that heading are the figures, 2, 3, 4, etc., indicating the size of the duct run. Under the heading "6," that means a six duct run, and the costs per 100 there represent a six duct run cost per 100 feet. I mean by a 6 duct run a duct which has six holes in there for placing

cable. The conduit f. o. b. Houston costs \$54.36 per 100 ft.

2533 The breakage on the vitrified clay conduit has been figured at 2%. The conduit is ordinarily shaped and hauled direct to the job. There is always a considerable amount of breakage, and our experience has been that a 2% allowance for breakage is a fair allowance. I mean that every time we construct 100 feet of this duct we

break 2 feet, have a loss of 2 feet. That is not a duplication of the breakage which occurs in the supply expense. The only breakage which is charged to the supply expense is the loss, the shrinkage, etc., which takes place on the material which is in the supply house. The majority of this material goes to the job direct. If we were putting in some of this duct out here on McKinney and had laid 200 feet of it and broke four feet in doing that, that would be charged to the job. The foreman would have received the full amount of conduit, and when he finished up he did not have any conduit left. He might have a few pieces of tile scattered around in the street somewhere. He would simply report the total amount of that conduit as laid. There is nothing that can be salvaged out of that broken duct because vitrified clay multiple duct is very brittle and has to be handled with considerable care and there is a considerable breakage on all jobs. That comes from Brazil, Indiana.

The next item is concrete. That is the concrete used to enclose the vitrified clay duct. Before the duct is laid in the trench a concrete base is laid. That base is from 4 to 6 inches thick. Then the duct is laid on the concrete base and concrete poured over and

around the top and either side of the duct, and tamped in in good shape. The idea of putting all of that concrete around the duct is because the underground conduit construction is initially very expensive, and we expect it to last many years, and the concrete encasement is built to prevent the vitrified clay duct from interference by other people excavating in the street, and also to insure a permanent structure. At times the earth washes out from beneath, and with a good concrete foundation under it and concrete

encasement, the ruct becomes self-supporting.

The next item is miscellaneous material, \$2.28 per 100 feet. That makes a total of \$86.09 for 100 feet, without including supply expense. It makes a total with the supply expense of \$91.26. The labor cost for laying this duct per 100 feet is \$119.00 which includes the cost of excavating, the placing of the duct, the mixing and placing of the concrete, the back filling and the supervision. Those trenches are about 2 feet wide, and the depth varies. The minimum depth is, to insure a clearance above the top of the duct, of 30 inches to the street level. We encounter obstructions, water pipes, sewers, and other things in the streets, and sometimes have to lay the conduits twelve or 15 feet deep. That is because there is some obstruction there which prohibits our laying the duct fairly close to the surface. We do not lay the duct any deeper than we have to of course. The incidental expense is \$18.00 making the total cost in place of a 6 duct line per 100 feet \$228.26 or \$2.283 per foot. There is

2535 a miscellaneous material item that goes along with that and it is shown on page 79. For the 6 duct run, which is the 6th item on that sheet we have considered only the most economical way in which that duct could be laid. A 6 duct run should be laid two wide and three high. I mean that the six ducts are two wide and three high. The overall area in square inches is 285 square inches, which with the area of the six duct conduit itself deducted leaves 117 square inches, which in turn means the area of the encasement, or the

amount of the concrete, 168 square inches, or 1.17 square feet, which in turn leaves 117 cubic feet of concrete per 1,000 trench feet, or 4.33 cubic yards. The cost of the concrete is \$6.55 per yard, and for the

six duct run there is \$28.36, which is about 31 yards.

Page 80 shows the number of yards of burlap used with vitrified clay multiple tile. I might explain that the burlap is used for wrapping the conduit at the joint, and to support the mixture of neat cement which is laid around each joint to prevent any mud or gravel getting into the duct. Another item is the dowel pins used where the two lengths of the duct are joined together. Those are the only miscellaneous material that go to make up the vitrified clay.

Page 78 is the unit cost of underground conduit main and details of the concrete and mortar. The mortar is used for laying the manhole box and the concrete is used in the trench as a base for

2536 the conduit, and also as a complete encasement for the con-In addition, it is used for the roofs of man-holes and for the bottoms of man-holes. Under the heading, "Man-hole Bottoms Trench" is "1-3-6." That is the concrete mixture, one part sand, 3 parts cement and 6 parts gravel. For manhole walls and tops we use a different mixture, $1-2\frac{1}{2}$ and 5, and the mortar is a mixture of sand and cement only, 1 to 3. This table is worked out on the basis of 100 cubic yards of tamped concrete. To get 100 cubic yards of tamped concrete requires 150 cubic vards of loose material. There is a shrinkage when cement and sand and gravel is wet and there is also a considerable wastage; when the concrete is mixed out on the street, the cement gets wet and there is a good deal wasted from the mixing boards. All the engineering hand-books recognize those two factors. We have allowed for a 30% shrinkage and a 5% In other words in order to produce 100 cubic yards of tamped concrete we have to have 150 cubic yards of the ingredients to use, of the loose material, and this table shows how the cost of the cubic yard of concrete is arrived at. The amount of cement used, the amount of yards of sand, the yards of gravel, and that is reduced on this page to the cost of a cubic yard of concrete. I got the prices of the cement and concrete and gravel that I have used from the Houston dealers, from the bills from Houston dealers. purchased locally in Houston, of course.

2537 Page 81 shows the cost of concrete encasement per 100 trench feet of fibre conduit. In the case of the six 3 inch fibre conduit, the overall area in square inches is shown. The area of the six 3 inch ducts is deducted and the area of the concrete encasement is thereby arrived at and in turn the number of cubic feet and the cubic yards of concrete required to enclose the duct and the

cost is shown on the basis of \$6.55 per cubic vard.

Page 83 of my exhibit covers brick manholes, the cost in place of brick manholes. Those bricks were purchased locally, in Houston, and I have taken Houston prices on those. And the covers and frames that go with the materials of course, are manufactured locally. This sheet details the cost in place of different types of manholes, shows the quantities of material, the prices of the material and the labor cost.

Page 94 of my exhibit covers the cost of the material used in the manholes, that is, the manhole frames and covers; the pulling in irons, which are the v-shaped irons installed at either end of the hole, used in connection with the pulling in of underground cable; the conduit plugs,—which are the wooden plugs used to block up the ducts which are not in use to prevent the water carrying into those ducts a deposit of silt and mud, and also to prevent to as great an extent as possible the accumulation of sewer and illuminating gas in the hanholes; the cable racks are galvanized iron racks which have

been shown here, which are placed on the walls to support the cables; the manhole ladders are u-shaped pieces of iron placed

in the walls of the larger manholes.

The first item is the frames and covers, the 21 inch round cover, the unit cost is \$8.95. Those covers and also the iron frames that go with them are manufactured and purchased locally, that is, they are manufactured in Houston and we purchase them from Houston dealers.

Page 95 is a detail of the cable run-ways in the Hadley and in the Preston Central Office Buildings. One of our photographs showed the underground cable vault, the underground cables entering the Preston Central office building, and shows an iron run-way and iron rack on which all of those cables are supported. Sheet 95 gives in detail the quantities of material and the cost of those run-ways.

Page 96 is underground conduit subsidiary, cost in place, per trench foot. Those pipes are purchased in Houston. Page 101 of the exhibit shows the cutting and restoring of pavement over manholes. We have five different kinds of pavement in Houston that we have to cut and restore in constructing these manholes. They are bithbulithic, brick, creosoted blocks, macadam and cement. The second heading is the square yards of pavement which has to be cut and also restored when manholes are constructed. We have to cut 9.5 yards of pavement and have to restore 9 yards. The rea-

son we restore less than we cut is because we have to excavate a hole the full size of the man hole which has to be constructed and finally however, the opening in the manhole is whatever the dimensions of the cover used on the manholes are. fore have to restore pavement over all of the excavation, excepting We therethat portion represented by the size of the cover. The cost of cutting was estimated by us. We had a good deal of that work and know what it costs. As I have testified we have about 700 manholes in Houston, all of them are not under paving, however. The cost of restoring per square yard those paving costs, were obtained from the Houston City Engineer's office; and in restoring pavement in Houston, we have to first put up a bond before we can excavate in any of ets. That bond is to insure proper restoration of the pave-The money is not returned to us until after the repairs to the streets. ment. the pavement have been inspected by the City Engineer's office. Next, where the paving company contracts, covering the maintenance of the paving, have not expired then they insist, of course, on making the repairs. We ordinarily handle the restoring of pavement through the City. That is, under the ordinances of the City or

under the rules of the City Engineer's Department we are not permitted to restore this paving ourselves. We are permitted to restore some of the older brick pavement ourselves, but often in those cases we have to get permission from the City Engineer to do that. He

has charge of all of the paving, of course. That is in order 2540 to see that the City may see that the streets are kept in proper condition. Page 103 is underground 22 gauge cable, the material, per 1,000 feet, that is, the cost of the material f. o. b. Houston. I will give you an analysis of one particular piece of cable, Fifty pair cable, the cost of 1,000 feet f. o. b. Houston is \$191.19. The cable loss, which is the splicing loss and which loss has been explained, is \$1.91. The miscellaneous material, that is, the splicing material, clamps and other things, all of which has been detailed in connection with aerial cable, the cost is \$7.71 per 1,000 feet, which with the supply expense added makes a total cost of \$212.86, or 21 cents a foot. Out to the left there, "cost used per foot" \$221.29, is incorrect. That first 2 is an error, that is a typographical error; the cost used is 21. That is, it should be 21.29, and not 221.

Page 108. That is silk and cotton insulated lead covered cable, used for terminating the paper insulated cable on the main distributing frames in the Central Office or in buildings. The paper insulated cable cannot be exposed to the air. It absorbs moisture which destroys the insulation resistance. The silk and cotton cable is formed up, after being boiled out with a mixture of beeswax and parraf-ine and is shellacked and baked and will not then absorb moisture. That silk and cotton cable is spliced to the paper insulated cable and it is sealed so that the moisture cannot get into the

paper insulated cable.

2541 Mr. J. D. Frank: You have there, cable loss, 5%. I have noticed on some other types of cable that you have a cable loss of 1%; on another size, cable loss of 2". Now, why is it that

you have a difference there in that cable loss?

Mr. Hoag: On other types of cables, the loss is made up of the loss incident to splicing and the loss is determined by the number of splices, and — this type of cable the loss is greater. First, the junk value of the lead and copper is out of all proportion to the initial cost of this cable. The initial cost of the cable is high as compared to other cables with a like number of cable pairs, due to the special silk and cotton insulation. Then, in forming up the silk and cotton cables, connecting them on the main distributing frames, the wires have to be cut, on 20 pairs, the frame requires the top 20 pairs are 11 feet away from the lead sheet and in the case of 100 pair cable that means that 20 pairs would be cut off about 2 feet shorter than the top 20 pairs and the wastage is considerably greater than in the making of the splice where only a 2 foot lap is made and only that amount of wire cut off.

Page 109 is the detail of the material required per splice. I have

explained that in connection with some other type of cable.

Un page 113 is a freight analysis of the freight cost per 1,000

1313

feet of underground cable, different sizes of cable. That sheet shows the cost of the cable f. o. b. the factory. It shows shipping weight in pounds per thousand feet, the freight rate per 100 pounds and in turn the cost of the cable f. o. b. Houston. Th. cable is shipped from the factory, in general, from Hawthorne, Illinois

As I testified yesterday the cable comes on reels and the reels are returned to the Manufacturers and we are given credit for that. The cose of the reel is not included in the unit cost or in the appraisal. Only the cost of the cable is included plus the freight that has to be paid on the reels. The reel is returned to the manufacturer and during the time it is in the Telephone Company's hands it is in the supply account. The supply account is debited with the value, the cost of the reel, and is in turn credited with the cost of the reel when it is returned. Some of those reels, of course, are broken, and that is one of the things that goes to make up the supply expense in that when a reel is broken, then the cost of the reel is charged as supply expense. In other words I haven't included in my cost of cable here anything for the value of those reels other than the money which we would have to spend as freight charges, plus the cost of such reels as would be destroyed and as might be included in the supply expense. The 6% supply expense cares for those things.

Page 114 is a 22 gauge cable stub. In one of our photographs was shown a main under-ground cable in the man-hole and a stub, that is, a smaller cable placed into that main underground cable and carried by the side wall of the manhole

up close to the roof.

Page 121 shows the cost of the miscellaneous material in connection with underground subsidiary cable, different sizes of underground subsidiary cables. The 100 pair cable, the cost per splice is \$2.21, that is for the miscellaneous material which we use in making

that splice, and the cost per 1,000 feet is \$19.01.

Page 123 is underground cable subsidiary, protected type, terminals. We have shown pictures of the large F X cable box mounted on poles where the underground subsidiary cables terminate and where aerial cables are connected to the underground cables. 404 pair F X cable terminal, the material for the terminal f. o. b. Houston is \$277.60; the miscellaneous material is \$77.90; with the supply expense added, the total material cost for one of those 404 pair F X terminals is \$376.83. The labor is \$72.00. That labor includes the placing of the box on the pole, and the making of the splice in the box. With the incidental expense added, which covers the hauling and other miscellaneous expense, the total cost of that 404 pair F X box is \$455.58. It requires skilled mechanics to put those boxes in place and connect up the wires to the boxes. requires two or three linemen and a helper to mount the box on the It requires a first-class cable splicer to do the splicing work pole. with the box.

2544 Page 130 covers pole seats and pole balconies, the cost of these items in place. The pole seat is used with a smaller sized protected terminal. The No. 52132 is mounted with the 50

pair terminals. The cost of the seat is \$5.50. The labor cost of mounting it is \$1.00 and the total cost with the supply expense and incidentals added, of the seat in place is \$7.48. The pole balcony, which is a large balcony used with the larger sized terminals on which men stand when working in those boxes, costs \$8.55 at Houston, and with the miscellaneous material, the supply expense, the labor and the incidentals added, costs \$14.59 in place. I have included as the cost of labor in constructing one of these boxes the sum of \$4.50. The way the balcony is mounted, the balcony is made up of two angles iron legs which are attached to the pole and supports the under part of the floor; also of the angle iron frame around the floor and of the iron rail around the balcony to prevent a man stepping off of it. One man cannot put one of those boxes by himself, it takes at least two linemen and a helper. A block and tackle has to be employed to pull the balcony up on the pole, and then it is fastened to the pole by means of two iron bolts. That is, the bolts are fastened through the pole. It takes these men to erect one of these balconies two to two and a half hours. Of course, they spend some time getting to the job and some jobs might take a half a day and some might be done in an hour and a half. It takes something

like three men to do that work, requires two linemen. They have to be mounted on a pole some distance from the ground.

Page 133 is underground cable subsidiary, block cable, 22 gauge; cost of material per 100 feet of 200 pair cable cost f. o. b. Houston per 100 feet \$60.96. The cable loss amounts to \$2.44. There are a considerable number of splices in block cable. That is cable that is fastened onto the wall or the roof of buildings. miscellaneous material is \$7.46, which, with the supply expense added makes the cost per 100 feet of 200 pair block cable, material

only, \$75.11, or 75.11 cents per foot.

Page 140 is underground cable, house, that being the cable which is installed within the buildings. That sheet treats with the material cost of house cable per 100 feet. The 100 pair cable costs \$35.324 per 100 feet, f. o. b. Houston. The cable loss per 100 feet amounts to \$1.766; the material, miscellaneous material costs \$12.88, and with the supply expense added, makes the total material cost for a 100 pair house cable \$52.968 per 100 feet, or 52.97 cents per foot. We have a considerable quantity of that material in Houston.

Page 154 deals with the station equipment, with the ap-aratus and the cords, protectors; that is, the telephones themselves. The first item is No. 20-B desk stand. The cost of the stand is \$1.40; the cost of the cords that go with the stand, the No. 450 cord, is 59¢,

with the supply expense added, makes the total cost of the 20-B desk stand, including the cords, \$2.10 each. There are various other items of equipment that go along with that. The next item is No. 73-A Sub-set. A sub-set is a different type of set from the desk stand. The cost of that set is \$3.85, and the total cost is \$4.081, including the supply expense. No. 58-A protectors, that is the type protectors used at the subscribers' stations. That is to protect the station and premises against the lightning. The total cost of that, of the material is 68.4 cents. There are other types used.

Page 160 is a part of the station equipment, the private branch exchange. This sheet covers the frame work. The frame work of the private branch exchange is the iron work and cabinet work only. In the case of a No. 4, 320 line capacity, private branch exchange, the cost of the frame work, including the supply expense, material, labor and incidentals is \$362.30. That is the cost in place. That frame work is not a complete private branch exchange switchboard. There is other material that goes along with that and is treated on the following pages.

Page 162 is line and position equipment which goes with the private branch exchange. I will give you an analysis of the cost of the items. The subscribers' line circuit with the relays

2547 included is the wiring, the connecting lugs, and other equipment which goes to make up that circuit and which is installed in the private branch exchange switchboard. The cost per subscriber line circuit is \$1.082. The cost in place is \$1.147. The remaining items on the page are of different kinds of circuit, the different circuits requiring different kinds of equipment and wiring.

Page 164 is station ap-aratus, private branch exchange, special ap-aratus cost in place. The first item is a No. 46A repeating coil, which is installed in each of the private branch exchanges. material cost is \$7.00 f. o. b. Houston which, with the supply expense added and the labor cost added makes the total cost of 46A repeating coil in place \$8.141. This exhibit entitled "Unit Costs and Material Prices" does not show the detailed cost of our central office equipment. We have not included that in our unit cost and material prices because in purchasing central office equipment the equipment is contracted for installed. The order is placed with the manufacturers to manufacture and install that equipment. It is handled on a contract basis in like manner as a building would be The detailed cost of the Central office equipment is, constructed. however, included in the appraisal, and the prices of all of the material, the quantity and the insulation costs, all detailed costs are shown in the appraisal. We do not purchase the various items going to make up those switch-boards, but we purchase those by a 2548

2548 contract under the terms of which the boards are assembled and installed in our buildings. That is shown in the appraisal. In arriving at our unit costs and material prices I have not included what is known as overhead charges in those prices. Overhead charges are the expenses of the General Manager and Vice-President and other Executive Officers of the Company,—in other words, general superintendence and engineering expense. Interest during construction is the third item. Those are the only three items of general expense which we have used. That is treated in the appraisal.

Cross-examination.

(Questions by Mr. Howard:)

The inventory was made under my direction, and by my force, whereby we counted or otherwise ascertained the property and listed it in the inventory I have offered here in evidence as an exhibit, and

then I applied to that inventory, and as set up there, the unit prices as I found them to be and as set up in my other exhibit here.

In making this inventory I just excluded the property not used or usable for telephone purposes. Briefly that was the Houston Home Telephone Company lot and Building, the lot and building acquired by the Southwestern when they took over the Houston Home Telephone Company in Houston Heights at Harvard and 5th.

A small lot, 20 x 20 which was a store room lot owned by the Houston Home Telephone Company, and the old Taylor Central Office lot and building at the corner of Center and Taylor Streets. Those three pieces of property. I also excluded all the dead drops. That is the wire that is not connected to working telephones, and also the wire in the buildings that are not connected to working telephones, and in residences, it being our practice in our accounting system to charge that part of the property off at the time the tele-phone is disconnected. Also the transmitters, receivers and induc-tion coils which are not the property of the Telephone Company, the Southwestern Telephone Company. Also the furniture and fixtures used by the District men who have their headquarters here in Houston was excluded in that those men have no supervision over the Houston exchange. I did not consider the long distance because I was considering only the Houston local exchange property. All the long distance property has been excluded, and that is long distance switch boards, the toll underground cables, the toll poles and wires and cable boxes, all parts of the long distance plant, including the toll test boards and telegraph equipment and other associated apparatus. That property, of course, is all owned by the same company and is just a difference in the way you inventory and account we charge it to, a matter of classification and segregation. The property I have excluded as performing long distance toll purposes has been used exclusively for long distance tell service. Every

telephone in Houston connected to the Houston Exchange might be used for long distance purposes as well as local pur-In fact a great many of them are used. I inventoried all of those lines and those exchanges and those lines leading to individual telephones and included all the buildings, the exchange buildings, four of them in the City. There are four exchanges but there are only three central office buildings because the Capital Central Office equipment is is housed in the Preston Central Office building. There are four central offices, but three central office All those Central Office Buildings are used by the long buildings. distance tolls in that long distance calls when completed over a subscriber's telephone, passes through the central office equipment in those buildings. There is no long distance equipment in the Taylor Central Office building, nor in the Hadley. All of the long distance switch boards and equipment is in the Preston Central Office building. It is necessary that they have a house for this long distance toll apparatus and that apparatus is quite considerable and quite expensive. The business done and the revenues received from the long distance service is very extensive, and amounts to a great deal of money in the course of a year.

"Q. If the earnings were pooled of the long distance service and of the local exchange, the long distance service originating here, and formed one general fund, have you any idea about what proportion the revenues received from the long distance

service would bear to the whole fund?"

"A. No, sir, that is an accounting matter, and I did not go into The auditor handles that branch of the matter. That is Mr. All the lines, the individual exchanges, the individual telephones are all ready to receive long distance service, and to carry on and transmit a long distance call to the subscriber, and do it whenever the subscriber has a long distance call. The telephone company has for years advertised to the effect that each tel phone is the center of the system. There are over seventy-eight thousand places in the United States that can be reached from any local telephone connected with the Houston exchange. They are a part and are used in that long distance service and help to produce the long distance revenue, every individual telephone. It depends of course, on the number of calls, the particular individual subscriber received. Some are very active in handling and carrying on long distance service and some are very seldom used for that purpose. All of them are equipped and ready for that service at all times, but if this is a proper answer to your question: The development of the local telephone rate was carried on simultaneously with the development of the local telephone exchange. I mean the rates for local telephone service were developed as the local telephone exchange was developed. for long distance service were developed along with the development of the long distance lines, and in my judgment the rate for a long

distance call is between the long distance switch-board. 2552 should be. In my judgment is is not from the originating individual subscriber in San Antonio to the individual subscriber in Houston. My opinion is that that rate is from the long distance switch board in San Antonio to the long distance board in Houston. In other words, it is chargeable only to the long distance and those earnings are necessary to carry the long distance calls. is by no means a donation,-transmitting the calls and carrying them to the long distance central office and delivering them from the long distance central office in Houston to the subscriber. means in the nature of a donation. The local exchange is credited with a percentage of the long distance earnings. The earnings from the long distance line,—that is, a percentage of those earnings is credited to the local exchange, that percent, in the case of Houston, being 25%. That 25% cares for the cost of completing those long distance calls in the Houston exchange. Every individual telephone is available for handling long distance calls, they advertise that fact and are proud of it and they are used. That is the practice and custom. The Preston Central Office Building here houses the long distance equipment. But in the inventory we only apportion a por-tion of the furniture and fixtures used in the handling of the business of the Houston Local Exchange. However, we did inventory the entire building and inventoried it as the property used in the local

service. We also inventoried every individual or local tele-2553 phone, and every sub-station as the property in the local service. All of the property inventoried in the Houston exchange is necessary in the rendering of local telephone service in the Houston Exchange. Also it is necessary in rendering first class upto-date long distance service, it is to the joint interest of both of them

to-date long distance service, it is to the joint interest of both of them. "Q. All this wiring and local sub-stations, and conduit and all this splicing and poles, and everything of that kind is a joint enterprise, and they are used in that way, so then it becomes a matter of accounting, which I understand you didn't go into, to try to segregate and show how much of the property is used on one, and used on the other, if you had to make a division between the two as to earnings and expenses?"

"A. No, sir, the answer to that is the answer which I gave you just previously, which is to the effect that all of the property inventoried in the Houston Exchange is necessary in the rendering of local telephone service in Houston. There could be no sub-division made."

"Q. You answered the question a while ago that it was all necessary also to an up-to-date, first class long distance service. You couldn't have first class long distance service in this City to-day without those very things that are being used in the local service."

"A. We couldn't have any long distance service in Houston without telephones."

To a great extent the local exchanges are the feeders and the 2554 revenue producers for the long distance enterprise. I can

remember when the telephone came into existence. The telephone would run through a town and the people would go in there and talk over the long distance exchange, and would get their messages in that way, and it was used very seldom, very extra-ordinary for a man to use long distance telephone service before they had exchanges, and then the business progressed and the exchanges were built up, and people began talking to their neighbors and to their wives, and then they began to feed the long distance lines because naturally the easier you make it for people to talk long distance the greater the amount of business you get from them. So then, we get back to the original proposition that they are mutually beneficial to one another, the long distance helping the local exchange, and the local exchange helping long distance, but I wish to reiterate that the property inventoried is all necessary for the local, exchange serv-It is necessary for long distance service, also, long distance service can be rendered without the local telephone exchange. It is also true that a very good local service could be carried on in the community without the long distance service. So that it comes right back to the point that they are mutually beneficial, one to the other.

I made this inventory and supervised it and know that it is pretty thoroughly made, and as nearly as these things can be, it reflects the facts and condition of the property, and the amount of different things. By the term unit cost and material prices I mean

the cost of labor and incidentals. I applied the 1918-1919

average prices of material. I got the 1918 average by going to the original bills for the different kinds of material as shown in the inventory. In most cases it was purchased for Houston exchange, but there were some items of material, of course, that had not been purchased for Houston during that period and we therefore used other bills. The company as a whole had occasion during those two years to purchase more or less nearly every kind of material going into a telephone plant.

"Q. Even after getting that, you found that during those two years at certain places and certain times you had to purchase certain material and to employ certain labor, and incidental expense in in-

stallation. How did you get that?"

"A. I might answer that by telling you that I have considered all different kinds of work done in Houston and in other places in the State. For example: In the cost of underground conduit construction I analyzed one complete job which I supervised in San Antonio in 1917, and the cost of that work complete was 9 cents per duct foot of conduit. The work was handled under very favorable conditions in the South end of San Antonio. Mexican labor was plentiful, the material was received in time, the work went along extremely well, and was hurried, and the cost was comparatively low. In

Beaumont there was completed during the latter part of 1918, or the early part of 1919 a considerable amount of underground conduit work done in connection with the etsablishing of the new Beaumont Central Office. That work was handled during a rainy period, and a trench caved in and they had lots of trouble, and labor was scarce and that job cost 37 cents per duct foot." The other one I spoke of cost 9 cents per duct foot.

Those were two. I carefully analyzed many jobs on that same basis, and used my best judgment in applying the labor cost and the incidental cost which has been used in this appraisal, being careful to be conservative and to make those costs normal costs. cavating, of course, was com-on labor. Brick masons were employed in constructing the manholes and skilled men in laying of the conduits. Our regular construction foremen and assistant foremen were employed in handling the work. Practically all that excavating is com-on labor, the actual digging of the trench. I did not get the unit of cost of com-on labor upon 100 yards or per vard on excavation or per cubic foot by adding 9 to 37 and dividing it by 2 but I considered those two jobs together with many other jobs, and exercised my best judgment as to what that work would cost in Houston. I don't know what quotient I finally got as the basis for that unit of work, cannot answer that off-hand, but I have the figures of course. The prices for material that I applied to this inventory were prices that prevailed either in 1918 or 1919, when

the particular kind of material had been purchased during those years. You understand, of course, that in this Houston Exchange plant there are certain items of material of different designs, and we have not purchased the particular kind of material for maybe eight or ten years, and in arriving at prices on those

kinds of material I went back 8 or 10 years and used the old prices. Those prices might have been brought up to date, but they would have been materially higher than the prices used. To that extent only my statement that it is made entirely by 1918-1919 is incorrect. Some part of this plant may have been in service here for 20 or 30 years but I don't know that as a fact. I am not in a position to state the percentage of plant that was added per year. I did have a memorandum showing the per cent that has been added for some nine years prior to this time but I do not appear to have the particular memorandum I was looking for here. I can tell you this, and these figures are approximately correct, that the gross additions to the Houston Exchange for the last five years were about three and Those are gross additions, actual expenditures of one half million. money. I got that information from the accountant. take us back to about September 1914. I don't know what period of that five years these additions were made.

Mr. J. D. Frank: I will explain, Mr. Howard, that we intend putting that in later. We will cover that fully.

In 1917 the United States entered the War and prices ad-2558 vanced quite rapidly in this Country, but prices have been advancing for many years, sort of an upward trend, perhaps a certain per cent a year from year to year. If I remember correctly that sharp advance in prices and costs was first reflected about March, 1917, just before the United States entered the war, and created a great demand for American material and American labor. manufacturers and industries were put into competition with the cost plus ten per cent basis of the government and there was a very radical charge, and run up to 100% in a great many instances, and in many instances it exceeded that. There have been some reductions in those prices, but in general they are prevailing today I should say. In other words it is definitely known that the entering of the European War by this Country brought about a radical advance in prices of both material and labor and nobody disputes that. And those prices, brought about by a specific cause, more or less prevail today. I cannot tell you off-hand how much of this plant was constructed prior of March 1917. Mr. Frank has just told you that that would be submitted, and if it is submitted, it will show the gross additions by years, I assume. What I have tried to do, Mr. Howard, is to prepare a conservative, careful estimate of the reproduction cost new of this property at this time.

2559 "Q. I understand. What I want to know is, in connection with that, or incidentel with that, if you made a study of the percentage of this plant as to when it was constructed, how much of it was constructed since 1917, and practically how much of it was constructed prior to 1917, and in what years those additions were made?"

"A. To determine the reproduction cost new of this property at this time I prepared this inventory. I counted the property and I

found out what property was here-

"Q. (Interrupting.) I understand that. My question was, if in connection with that, or incidental to it,—I understand your main undertaking was to inventory this property correctly and apply to it unit prices and material cost to see what it could be built for under prices prevailing in 1918-1919. That was your chief undertaking, as I understand."

"A. My chief undertaking was to determine what the reproduc-

tion cost new of this property was as of October 1st, 1919."

That is what I have done and that is all there was to it. I made this inventory and applied these prices to get at the reproduction cost new at this time. The question you asked as to whether I made that investigation or not, wouldn't enter into this job and this is the job which I did. I know something about when this plant was built in this way: In 1905 or 1906, I was sent to Houston to do the field work incident to preparing plans covering outside construc-

tion work for the Houston exchange. At that time in the section of the city south of McGowen Avenue and west of 2560 Fannin Street, all the subscribers connecting into the Houston Exchange in that section of the City were connected with that one 50 pair aerial cable. Since that time we have built large, heavy pole lines, and we have replaced those, and that 50 pair cable, with large aerial cables and large heavy pole lines. We have also later replaced those large heavy pole lines and heavy aerial cable with underground conduits, and at this time we have underground conduits, extending over into the new Montrose addition. In 1905 I did a very substantial lot of work on this plant and have been doing it every since continually, during 1906, 1907, 1908, 1909 and 1910,-right along each year. Since 1917 we have completed certain of that south end conduit but I can't answer how much off-hand. I can look it up for you and tell you, however. We have also completed the Harrisburg road conduit from Milby street to about Yoakum, or beyond, a distance of about a mile and a half, and have, of course, done a large amount of other work. Since 1917, I cannot state approximately how much additions have been made to the plant, in actual cost, I cannot answer that off-hand.

I have been intimately associated with construction work all over the state of Texas for many years, and have known from year to year about what work cost, and about what prices 2561

of material were.

"Q. Can you answer this question: If you could get an average of prices prevailing during the years of the construction of this plant, get the prices at the time the different constructions were made, get the average of those unit costs and material prices-"

"A. (Interrupting.) You mean starting to-day and working

back for a number of years?"
"Q. This plant was built at a certain time, and there is probably some record of it, the books of the company should show it, that a certain amount of work was done each year and what the work was. If you could get the history of the construction, and the history of

the prevailing prices at those times and get the average cost of the plant, of constructing the plant?"

"A. Such prices and costs might be prepared, yes, sir."

That would necessarily be an estimate. Estimates enter into all construction work. I don't know whether the prices upon which I am theoretically reconstructing this plant are 25 or 50 or 200% above the prices that prevailed as the plant was constructed. I don't think the prices would be double. Prices on telephone material have not doubled since 1914. Some items of material have gone up 120 and 130%. I testified yesterday, or the day before, that in general the prices of material had increased, materials which are used in the outside distributing system between 50 and 60% since

about January 1915, and previous to 1915 prices had shown a steady, normal up-ward trend, but there had been no material increase in prices previous to that time from year to year. There had been a normal up-ward trend but not an abrupt change.

As I have stated prices have advanced since I made this appraisal, which was made as of October 1st, I don't know what caused that. Since October 1st business has been in a rather unsettled state, for some time, it has been particularly unsettled between the period of this date and the date of October 1st, but I question whether that would have affected prices. It might affect production, but I do not know that it would affect prices. It is not a fact that anything that limits production, and limits distribution and makes difficult distribution operates almost certainly upon prices, as certainly as the law of gravitation. It might have just the reverse effect. Manufacturing plants throughout the United States have had to cut down on account of the fuel shortage. The railroads have been unable to transport a considerable quantity of the manufactured material which has been offered to them, and that has resulted in some manufacturers not being able to work full time. Labor is the big thing that enters into the cost of the manufactured article. It might be true in the case of a contractor that a man that undertakes to furnish certain equipment at a time when he doesn't know whether he can get coal and a time when he don't know

risks.

"Q. These men are virtually in the position of a contractor. They either are going to make this stuff for you, or have it made. In either event, the stuff they have on hand the price will be reflected on it just the same, because it is to take the place, or stand in the place of an article that is to be manufactured?"

whether he can get material transported to him, is bound to add something to insure against those hazards and those

"A. I don't quite see that, no sir. A contractor who took a contract to put up a new building and to complete that building in a certain specified time, might add something to the contract price of his building to protect him against delay in shipment of ma-

terial, and that sort of thing."

"A. Take a man that has a stock of shoes on hand, and he bought them at a certain price level and he had a good profit on them, but something happens, he finds out it is almost going to be impossible to get leather, or would be very difficult to get it, won't that hazard be immediately reflected on the price of shoes that he has on hand?"

"A. You are speaking of shows. A very good friend of mine, Mr. Graham Payne of Dallas, who is in the shoe business, I have discussed the matter of fuel shortage with him, and I asked him what it had meant to his business, and he said it meant nothing other than he couldn't get the shoes he wanted. It has not affected prices."

2564 "Q. I was using shoes more as an illustration; that is the natural thing, if a man has on hand any stock of goods, has them so they are available to him, and he knows it is going to be hard to replenish that stock, those conditions are ordinarily reflected in the price of the stock he has on hand, are they not?"

"A. You are talking about supply and demand, and that does

have its effect on prices.

The question where the fuel shortage and a lack of rail facilities is responsible for any increase in prices in telephone equipment and material since October 1st, 1919,-I question that. prices are determined on telephone equipment apparatus like switchboards, is about as follows: The Manufacturer of that equipment keeps accurate cost data. They build that up and examine it frequently, and then in entering onto contracts for the delivery of the manufactured central office equipment from time to time they know what it has been costing them, naturally take into account what it might cost them in the future and set their prices accordingly. They do not change prices often.

"Q. Right there. That is what you apprehend they did,-what they have got to do. Then, when they are confronted with a condition like this, and they have got to quote prices on central office equipment, they will say "in addition to these things we have

recorded here and have before us and know with reasonable certainty, we are confronted with this unusual and extraor-2565

dinary condition: We have to figure whether we will be able to get this material, and whether the railroads will be able to run, and whether the manufacturer will supply us with this material, the different elements to go into the Central Office switchboard, what they are going to charge us," and then aren't the bound to add something to take care of those unusual conditions?"

"A. In the case of Central Office equipment that could not be done."

"Q. Didn't I understand you to say the other day that Central office equipment was manufactured largely upon such specifications?"

"A. Yes, sir."
"Q. Their quotations are based largely upon specifications?"
"A. They are based upon the manufacturing cost, plus the cost of

raw material."

"Q. The Manufacturer would gave to take into consideration in making quotations, during the period of the coal strike, the then conditions, and would have to consider them in making their quota-

tions?"

"A. In central office equipment material the change in prices was put into effect as of November 1st, 1919, was probably decided upon months before, for the reason that those prices are sent out in the form of a printed catalogue to telephone companies all over the

United States, and those catalogues were received during about the middle of October, and was a notification to the telephone companies to the effect that these prices would apply on and after November 1st. That is stamped on the catalogue and those catalogues cover a multitude of equipment and apparatus, a large amount of stuff. And just the work of compiling the cost data would take weeks, and probably months."

This coal strike did not come on over night, I have forgotten the exact date it started. In my judgment the reason for the increase in the prices is the labor cost and I base that on the fact that the rate of pay has steadily been going up. To get good men and hold them you have to pay a great deal more to-day, everybody does, you have to pay a great deal more than you used to. There has been an increase of 10% in the rate of pay put into effect in Houston by our company since October 1st. I wasn't considering the girls, I was considering the men, linemen, cable splicers and that class of men who would have to do with the reproduction of this property here. Company has been raising the rate of pay regularly about every ninety days. The rate of pay for the telephone manufacturing people has been going up steadily just as ours has, and just like the carpenters and plumbers and brick-layers. There has not been any talk of reduction during the last six months, but quite the reverse. The carpenters and brick-layers and plumbers and electricians and other people are continuing to ask for more money. Our daily papers tell us the railroad brotherhoods are demanding more

2567 money. The last large general raise for railroad men was to the shop employees, which, as I recall it, was about six months ago. I don't think the question of whether the manufacturers are going to get coal or transportation and that sort of thing affect the

price of central office equipment material.

I said that the gross expenditures since 1915 were approximately three and one half million dollars but I don't know during what period those five years that was done, how much was before 1917 and how much was since 1917.

Redirect examination.

(Questions by Mr. J. D. Frank:)

The local plant is not charged with any of the long distance equipment and I have segregated all of the long distance equipment in making my inventory of the property. If there were two telephone plants in Houston and one was so equipped that the subscribers could use it for long distance service, and other was not so equipped so the subscribers could use it for long distance service, certainly the plant

which could render the long distance service in addition to the local telephone service would develop the local business faster. An example of that is the American Telephone plant at Dallas as compared to the Dallas Manual Telephone Plant. Before the

Dallas American Telephone Plant was consolidated with the Manual Plant they had in service approximately ten thousand local subscribers, while the Manual Plant had in service,—the Manual Plant being the plant which had the long distance connection,—some twenty-seven thousand subscribers. It is a most distinct advantage to a local company to have this long distance connection.

Mr. Howard: Right there, Mr. Frank; Suppose you ask him, if you don't mind, if there were two long distance concerns operating through Houston, and one of them had a local exchange and the other did not, which would develope the faster?

Mr. Frank: Go ahead and answer his question. Mr. Hoag: The one with the local exchange.

It certainly is a mutual benefit, both to the long distance service and the local service to have those connections. This local exchange receives a part of the earnings from the long distance business on account of this connection but that matter will be handled by the accountants when they get the revenues and expenses.

With reference to a comparison of common labor in San Antonio, Texas and Houston, Texas,—the price of common labor at San Antonio is considerably lower than at Houston, in that there are a very large number of Mexicans in San Antonio. The price of

common labor at Heaumont, Texas compares with the price of common labor at Houston, it is just about the same.

The Southwestern Telegraph & Telephone Company has been compelled to pay those increased prices for material which it has been purchasing, that Mr. Howard has been asking me about. I can't tell you what part of the increased prices is due to the war and what part formally would have taken place had there been no war. There has been a steady upward increase in prices for a great many years, even prior to the beginning of the war. Prices of material fluctuate like the prices of stock and bonds, the price of copper is one material which fluctuates greatly. Other material the prices do not fluctuate to so great an extent.

A circumstance of the kind Counsel has asked me about, a coal strike does not have any material effect upon the prices of material of this kind. It would be reflected at a much later date. The manufacturers of central office equipment purchase very large quantities of raw material in advance and they are given information about what quantity, or the different types of equipment that will be required in the future. The telephone company prepares a year, or eighteen months in advance, and sometimes three years in advance, their estimate of material required so as to permit the manufacturer to secure the raw material and to manufacture the apparatus and

equipment. My understanding is that that coal strike has been settled. The price of Central office equipment has not gone down since the coal strike was settled. As I have here-

tofore testified there has been a constant upward increase in general That affects the cost of material in that approximately 70% of the total cost of the equipment apparatus material used in a telephone plant is manufactured, and the rate of pay of labor has a great effect upon the prices of that material, greater effect than any other one thing. In other words, if you purchase a switch-board costing \$100,000, say \$70,000 of that price fixed by the Manufacturer would be due to the labor, or the cost of the labor involded in the construction of that particular board, and \$30,000 of it would be represented by the material which went to make up that particular switch-board, the raw material. Therefore it is a fact that this constant up-ward increase in salaries is bound to influence to a great I have not heard of any general extent the price of these materials. reduction in the salaries of employees throughout the United States in the last six months or within the last four or five years. I have heard of many increases but no reductions, and they are still clamor-This Plaintiff does not know of any way of reducing ing for more. the salaries of its employees. In my twenty years' connection with the Telephone Company I have never known of any rates of pay being reduced after they had been established. Counsel has asked me if I was so familiar with the prices of materials at the time addi-

tions were made to our plant that I could figure out by years 2571 what the average cost of our plant was. If I made such a computation it would not give me the cost of reproducing this exchange at the present time. I started out on this to make an estimate of what it would cost to reproduce the Telephone Plant in Houston at the present time, and so far as this part of my testimony is concerned I am not considering the original cost. As I testified previously I came to Houston about the year 1905 to do some field work here and at that time there was some 10 or 12 subscribers here.

Mr. J. D. Frank: According to Exhibit No. 10 put in by the witness Mr. A. E. Scott, there were something like 4,569 subscribers in Houston at that time. That is for 1904. The figures for 1905 are 5,343 subscribers, and according to the books of the company at that time the cost of the plant which had been placed up to that time was something like \$614,000.00 in round numbers. Then there has been a considerable portion of this plant added since that time, hasn't there.

Mr. Hoag: Yes, sir.

I have been more or less familiar with the prices of material during that time. In making a study of what prices have been during the last few years I have considered some seven and one half million dollars' worth of work, about two and one half million dol-

2572 lars' worth of which was here in Houston. In arriving at my unit prices, I made a study of these prices which have prevailed in the last few years, I considered the material prices for several years, and the labor costs for several years. I made a study of the present day prices of materials and the present day costs of labor and considering those facts together I have come to my conclusion as to what prices will probably prevail in the future.

In 1905, according to the exhibit referred to a while ago, there were something like five thousand telephones in Houston, and at the present time there are approximately 27,000 telephones in Houston; it has multiplied more than five times during that length of time.

Cross-examination.

(Questions by Mr. Howard:)

It is generally admitted that the more subscribers you have the more expensive it is to furnish service per telephone. Those improvements in the way of conduits whereby we carried so many lines and other improvements tend to minimize that difference in cost. That increasing cost as the plant grows up, and the number of people served, would be much more noticeable if you would have to string the lines on poles the way we used to do, or when we had a

little cable that would carry only 40 or 50 pairs of wire.

2573 As each telephone was added the increased cost was much more noticeable than now when we handle them by the im-

proved conduits.

Redirect examination.

(Questions by Mr. Frank:)

The cost of additional construction is not the only thing that enters into it. As the number of subscribers increase, the cost of construction to reach them also increases. In a small exchange serving probably 500 subscribers the cost might be \$75.00 per station, whereas some of the larger exchanges, such as Houston, might be \$250.00 or \$300.00 per station, or even in excess of that. As the number of subscribers increases the value of the service to each particular subscriber increases due to the fact that he can reach more subscribers, and the expense of handing the increased number of calls also increases.

Cross-examination.

(Questions by Mr. Howard:)

That expense per subscriber depends largely upon how densely the community is settled, it depends on many different things. It depends upon the area covered, actual construction cost, the labor cost, and many other things. You pay less for labor in the small towns than you do in the large towns.

I have prepared an appraisal of the property constituting the Houston telephone plant, based on my inventory, and in preparing that appraisal, the quantities of property as shown by the inventory were used, and to those quantities were applied the unit costs and material prices, as shown by Exhibit 17, which is the material prices and unit cost exhibit. In the case of the land, estimates

as to the reproduction cost of the land were obtained from Mr. George L. Wilson, a Houston real estate man, and his figures were used. In the case of the building estimates, as to the reproduction cost of the buildings we obtained from contractors and architects in Houston, and those figures applied. In the case of Central office equipment, the prevailing equipment prices as of October 1st, 1919, which in effect are 1918-1919 prices, were used, and the contract prices covering the installation of that equipment for the same period, that is, 1918-1919 were applied to cover the cost of installing. For furniture and fixtures, the costs of that equipment, as shown by the company's records were used. That was done in that we would have difficulty in securing present day prices, and we desired to be conservative. The same things applies to the tools and store equipment, and to the stable and garage equipment.

I now desire to introduce in evidence my apprisal and I will

mark it Exhibit No. 18.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 18, and said Plaintiff's Exhibit No. 18 2576 is transmitted herewith in Exhibit File.)

That is the appraisal prepared by me.

George L. Wilson, a witness for the complainant, was sworn and testified as follows:

Direct examination:

My name is George L. Wilson. I have lived in Houston since June 1st 1914, and have been engaged in the real estate business, buying and selling property and making loans on real estate. It has been my exclusive occupation. As to my qualifications that enable me to judge as to the value of real estate in Houston, I may state that real estate has been my sole occupation all my life. I was born and brought up, you might say, in a real estate office, in my father's office at Joliet, Illinois, and I operated there and at Chicago, and while in Chicago on two or three different occasions I have been appointed by different courts to appraise property for receiverships, and cases of litigation. I do not recall now what courts they were.

It has been several years ago, but the most of the property was located on the south side of Chicago, and since coming to Houston I have been following real estate and loan busi-

ness, and I have been called on by private investors in several instances to appraise real estate for loans, and in one instance I was called on as a witness, expert witness, but never was put on the stand in that perficular suit. That was the only suit I was ever called on here ouston.

I hav real estate office here in Houston, located at 617 Union National Bank Building, and have had that office ever since I came to Houston in 1914. I haven't had that particular office, but have been in the same building ever since then and operated in real

estate here in Houston since that time, 1914.

I am familiar with the property which the telephone company owns on Fannin street, between McGowen and Dennis. scribed as Lot 8 in Block 3, 621/2 feet by 100 feet on the east side of Fannin street, between McGowen and Dennis, and is known as the Hadley Central Office property. I am familiar with that piece of property. I appraised that piece of real estate, the 62½ feet by 100 feet, east side of Fannin, south of McGowen at \$4,000, or \$64 a front foot. I am familiar with the values of property in the vicinity where this land is located. I arrived at this value on a basis of a sale in that community. Further down the street, about, I would say 250 or 300 feet to the south, Mr. Paul sold to Henry Cook 371/2 feet by 100 feet-

2578 Mr. Howard: I don't think we will contest that value.

Mr. Duls: You admit that value is correct? Mr. Howard: Yes, sir, I am willing to admit that.

I am familiar with the land on which part of the Hadley Central Office building is situated, described as Lot 12 Block 7, 50 x 125 feet deep on the north side of Dennis, 100 feet east of Fannin street.

Mr. Howard: Where is it located, Mr. Duls?

Mr. Duls: If you will turn to page 18 of that appraisal, Mr. Howard. It is located on Dennis, between Fannin and San Jacinto.

I placed a value on that of \$3,200. I arrived at it on the basis of it being 25% deeper than the lot on Fannin Street, and in my opinion is only worth about 75% of the Fannin Street property.

Mr. Howard: \$3,200.00?

Mr. Wilson: Yes, sir.
Mr. Howard: We will not contest that either, at this time the fair market value.

I am acquainted with the property on which the Taylor Central Office building is located in Houston Heights, they being described as lots 11 and 12 in Block 247, it is 100 x 132 feet.

2579 Mr. Howard: Located where?

Mr. Duls: On the northwest corner of Harvard and 8th streets in Houston Heights.

I have placed a figure of \$1,250.00 as the fair market value of the corner lot and \$1,000.00 the inside lot or \$2,250.00 for the gross value.

Mr. Howard: We do not contest that either.

Mr. Duls: Counsel admits that that is the correct fair market value of that property.

I am familiar with the property which the company has purchased for the purpose of erecting the Harrisburg Central Office. That is the located on the northeast corner of Harrisburg Boulevard and Yoakum streets. I am familiar with that, known as lots 11 and 12 and 13 in Block 23, 150 by 150 feet deep. I placed a value on the corner lot of \$1,100.00, and each of the two inside lots at \$850.00, or a total of \$2,800.00 for the three lots.

Mr. Howard: I don't know anything about that, but I expect it is fair.

I based that on a sale across the way. A corner lot across the street sold for \$900.00, and that lot sets diagonally Harrisburg, it comes into the Boulevard at an angle and the purchaser of that lot in order to erect a building on his lot has got to face it diagonally with the street, and that sale was made for \$900.00, and the property of the telephone company is across the street from

2580 it, and has south and east exposure, and you can erect your building square with the world as I term it, and the result is I attached a value of \$1,100.00 for the corner lot, in other words \$200.00 more than the lot across the street sold for. I based all my estimates on sales in the community as bearly as I could find any. That is one method by which I ordinarily determine the value of property. Real estate men use that method of determining values practically exclusively, although in some instances they use the revenue, but on land without improvements they consider sales in the community as a fair criterion on what a piece of property is worth.

I am acquainted with the property owned by the telephone company on the northeast corner of Texas and Robert street-, 125 by 100. I placed a value on that property, I believe of \$4,500.00. There were no sales in that community by which I could be guided, and I had to exercise my own judgment as to what I thought I could sell it for. I believe I could sell it for \$4,500 for this reason, that it has a value, a commercial value in addition, by reason of being located on the railroad tracks. I would place a value of \$3,000.00 if the property was not adjoining the railroad right of way, and I add 50% increase on that by reason of its locality, merchantability. In other words a great number of persons want to buy a piece of property adjoining a railroad because they want to use it for warehouses, and it is close to the tracks. The fact of its being close to the railroad tracks gives it added value. That property is known as Lots 1 and 2 and a half of lot 12 in Block 650.

2581 I am familiar with the piece of land which the telephone company owns, located on the northwest corner of Capital and San Jacinto Streets, 125 by 125. It is known as lots 1 and 2 and a half of lot 3 and one half of lot 11 in block 70. I place a value of \$198,437.50 on that land. I arrive at that figure in this way: On December 31st 1918 the Flake estate sold Edward Larendon the corner of Texas and San Jacinto for \$50,000. The size of that lot is 50 by 100. Your property has 25% greater depth, and I also added 25% by reason of its location. Corner property usually carries in the eyes of the investor about 25 to 33% more than an inside lot value, but of course both of these being corner lots, each of them has the same corner influence. I simply used 25% additional on account of four lots being 125 feet deep as against the Larendon lot being 100 feet deep, and in addition to that I added 25% additional value

by reason of its location. I value the corner of Capitol and San Jacinto 25% more, square foot by square foot than I do the corner of Texas and San Jacinto, by reason of the influence of the Episcopal Church and the fire station across the way. A church or a fire station in a business section has a very decided influence on its value. You have got to carry the shopping element beyond a long stretch of vacant property, and unless you have got a very active site, unless you have something to draw them to that locality, that influence is On the other hand I arrived at that value from a different. About two years ago I was appointed by J. H. Landgreen of felt. Galveston, together with A. B. Kelley and Louis Lobit to value the property directly across from the telephone company 46 by

2582 100 fronting on Capitol, and at that time belonging to Mr. Bailey. That was on the south side of the street and faces north, directly opposite the telephone company's property on Cap-We placed a value on that of \$1,000.00 a front foot, and that was 100 foot deep, and an additional 25% to corner influence, plus 25% from the fact of the company's property being 25 feet deeper, and it comes out identical from both those sources. So that I was

confirmed in my judgment as to the fair market value.

My appraisal of this land is made on the basis of it being the land alone, and without consideration of the improvement on the land. I did not take into consideration the value of the improvements at

all, but merely valued the naked land as it exists, as land.

In stating my qualifications I testified that I was also in the loan business, loaning money on real estate. Loans are made on business property in Houston at usually around 6%; that is well located busi-You might say down-town property. ness property. That is the standard universal rate, 6%.

With reference to loaning money on residence property in Houston, it would depend entirely upon the locality. On south end property where it is usual to loan about 50% on the property, you can reasonably figure on 7%. In the Heights and the Fifth ward you

would have to figure 8%.

2583 The rate is entirely based on the merchantability of the property. How much the man, in the event he had to acquire the property under foreclosure, what his probable chance of selling it immediately and getting his money out of it. I don't think I could place a loan on residence property for less than 7 per cent on a basis of 50% of its value. And these loans I have been speaking about would be first-lien loans absolutely.

Now, with reference to farm property. I am making one loan now of about \$30,000.00 out near Genoa on the basis of seven per cent. Ordinarily farm property runs between seven and eight per cent. made one loan of one hundred thousand dollars near Webster in February on the basis of eight per cent. That was February 1919.

On unimproved farm property the rate is eight per cent on that, but it all depends entirely on the location. The rate on cattle ranch property in Harris County wouldn't be any different, it would be around eight per cent. The Federal Farm Loan Bank, however, is making on improved land loans on the basis of five and one half

per cent, forty years' time, but the private investor never would agree to make such a rate. I never have been able to make a rate like that, never have been able to get the money at that rate. The investor will not loan his money out at that low rate. In one instance, I had a client, Mr. John Kaillard of Goose Creek, he makes all of his loans at seven per cent. I made a loan for him of ten thousand

dollars on the 23rd of December at eight per cent, but on 2584 South end property he has been making recently a seven per

cent rate. He used to make it at 6, but he said at the purchasing power of the interest on the basis of six per cent he couldn't get along with it, and he had to raise the rate one per cent.

I do not make any loans on oil property, as such. I have made a loan on prospective possible oil property at Goose Creek. I made one loan down there for six months, on Mr. Holliday's land——

Mr. Howard: I don't think this record should be encumbered with instances of individual loans Mr. Wilson has made. He has already stated the general rate from a good many stand points.

The risk usually determines the rate of which a loan on property is made. What they call the moral hazard, the personal element, and then again the possibility of selling it in the event the lender has to take it in. In other words the merchantability of the property, and the accessibility of the property. You take property away from transportation and away from roads, it will naturally take a higher rate than property that is readily accessible. The risk is decidedly an important element.

I have been speaking of first-lien loans. Second lien loans, the rate that will apply to those loans depends largely upon the amount of underlying first liens. If you have got a loan of fifty or sixty

2585 per cent on first mortgage, your second loan is going to cost you a lot of money. In but one instance I have confined my-self exclusively to first lien loans? By the term "A whole lot of money" I mean that probably a short time loan will draw eight per cent, and as high as ten or fifteen per cent.

Cross-examination.

(Questions by Mr. Howard:)

In the pawn shops they sometimes charge as high as ten per cent a month.

Redirect examination.

(Questions by Mr. Duls:)

He doesn't have any land as security, all chattels.

S. B. Houx, a witness for the complainant, was sworn and testified as follows:

Direct examination.

(Questions by Mr. Duls:)

My name is S. B. Houx, and I live in Houston, Texas and have

lived here eleven years.

I am a general contractor, connected with the American 2586 Construction Company, in Houston, I am the president of that concern. My company has occasion to figure on plans and specifications for buildings and contract work, and while I do not make the estimate on the contract jobs, I always pass on the final figures. The clerks under me made up the figures and submit them to me, and I pass on them. The estimators take off the quantities and I do all the pricing, practically all of that, and my company bids on the figures that I make. In other words they bet their money on my judgment.

Mr. Howard: We admit he is competent and qualified to estimate

buildings, and is a competent contractor.

I am familiar with the telephone buolding owned by the Southwestern Telegraph & Telephone Company on the corner of San Jacinto and Capitol, and I have figured what it would cost to reproduce that building. I estimated that I could reproduce that building for \$294,560.00. I made that estimate on September 24th, 1919. I used the prices of labor and material current at that time, September 24th, 1919, and arrived at a figure of \$294,560.00. At the time that estimate was made I had before me the estimate that was made at the time the contract for the building was let, the estimate of the quantities of materials. We did not need the plans and specifications. We had exact estimates of the quantities of material going into the job. We used our estimate sheets on the quantities that we used in making the bid at that time, and applied the present day prices of labor and material to those quantities. In making my estimate I went at it in the same way I would have gone at it if I was going to bid on the job of constructing that property. I

2587 went about the work in the same way,—the same way in which we submitted our original bid. I would not take the job of constructing that building today at the prices I used in making my estimate, because prices have advanced since that estimate was made. When I say prices have advanced I mean the prices of

all material and labor.

Mr. Howard: Since September 24th, 1919?

Mr. Houx: Yes sir.

I have examined this building over here and find that it is good construction and found it to be in good condition. It has been well maintained.

These papers I have before me are the estimates of these quantities of material and cost of this building, and I will preserve them so

they can be examined at any time. The estimates have been preserved since the bid was made in 1911.

Cross-examination.

(Questions by Mr. Howard:)

I did not construct that building, and I don't know what it cost, but I know what the low bid was. The low bid was \$149,900.00. The building was constructed by the Fred A. Jones Company. I practically doubled that bid in September last year.

Redirect examination.

(Questions by Mr. Duls:)

2588 I don't mean to testify that I know what it costs to build that building, I didn't say I knew that. I said I knew what the low bid was.

R. L. JACOBE, a witness for the Complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is R. L. Jacobe and I have lived in Houston about 25 years. I have been engaged in the electrical business about 20 years. I am in business for myself, a member of Jacobe Bros. Electric Company, a firm composed of myself and my brother. That has been my principal occupation since my stay in Houston, about 20 years.

that is, a contracting and working for electrical business.

As to my qualifications for estimating contracts for wiring and electrical work, well, I have done everything in electrical contracting, from office boy to estimator and manager of a contracting company. As estimator and manager I have estimated and superintended the work of most of the large buildings in Houston. That covers it I guess. For instance, the Carter Building, the Southern Pacific office building, the post office building, the Houston Belt & Terminal Company, nine-tenths of the schools of Houston. I esti-

mated and superintended and contracted for the main building of the telephone company, and Hadley Exchange, your Preston Exchange, and your Hadley Exchange, and the Ex-

change at the Heights, the Taylor Exchange.

I have made an estimate of what it would cost to reproduce the wiring work in those buildings. I made an estimate on September 24th, 1919, and the estimate on the Preston Building was \$5,570.00. The estimate on the Hadley building, on the same date, was \$1,624.00. and on the Taylor building \$800.00. In making my estimate I took the estimate that I had made, my original estimate on the plans and specifications and took the prices of labor and material as

of that date, September 24th, 1919, and added that to my original figures, and that is the basis of my estimate. These figures that I have testified to represented my best judgment at that time, based on my experience and knowledge of the business as to what it would cost to reproduce the wiring in all three of those buildings at that time. I would not take the job today of doing the wiring in those three buildings at the prices that I estimated on the 24th of September. I would not do it because of the advance of prices of material and labor. They have advanced since that time, but I hope they are not going to continue.

Cross-examination.

(Questions by Mr. Howard:)

I wired those buildings when they were constructed but I do not recall what the charge for the wiring was at that time, but I would judge that they were approximately a third less than the figures that I gave you, just about a third. I think as close as I can

recollect it, that is about the way it worked out at that time.

In my work of estimating I attempt to keep my unit prices up daily, don't you see, with the market, both labor and material. At the time I made this estimate I used the prices that were in effect that date. That would be the scale as fixed by the Electrical Union as far as the labor is concerned. The labor scale then was \$7.00 a day. I don't remember when these buildings were built here. The labor scale today is \$8.00 a day.

Mr. Dudley O. Lane, a witness for the complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is Dudley O. Lane, and I have lived in Houston about four years and during that time I have been engaged in the plumbing and heating business exclusively. I have been doing the estimating for plumbing and heating institutions for the last 35 years. I have done some work on school buildings here, and some of the large apartment houses here, that is, new work on them, and outside of Houston I have done a good deal of large work. I am connected with the firm of Lane and Clifton, I am one of the owners or proprietors.

I made an estimate of what it would cost to reproduce the heating and plumbing in the Taylor Central Office building of the 2591 telephone company, and I have those figures here. The cost of heating was \$2,399.91, and the cost to reproduce the plumbing in that same building was \$1,717.34, according to my estimates. That is my best judgment based on my knowledge and experience of the business of what it would cost to reproduce the heating and plumbing in that building.

Cross-examination.

Questions by Mr. Howard:

I think I made that estimate in the latter part of September. I have been in Houston for four years. I don't know whether the Taylor building was built before or after I came here, but I have known of it for some time. I had occasion to go over there two or three times in the last two or three years so therefore it has been

three years or more to my knowledge.

There has been a very marked advance in prices of material, both material and labor, in construction work since 1914. In plumbing work I should say it has about doubled. That is, in materials. Labor I think we were paying about \$6.00 a day for plumbers' labor, that is, 1914, and about \$9.00 per day today which is about a 50% advance in labor. About 100% in materials, and 50% for labor, in some instances. The same thing applies to heating, about the same thing, possibly.

Redirect examination.

Questions by Mr. Duls:

2592 I would not take the job of installing the heating and plumbing in that building today at the prices I figured in that estimate because of the advance in prices of materials. In some instances prices have advanced at least 20% since I made that estimate. Labor has not advanced since last September.

B. W. WARREN, a witness for the complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is B. W. Warren, and I have lived in Houston about 25 years. During that time I have been engaged in the contracting business, plumbing and heating, and that is my occupation now. I am connected with the firm of Warren & Company. I own that company. With reference to my qualification for doing contracting work involving heating and plumbing and for arriving at the correct amount of the cost of that work, well, I have always done all the buying and estimating of all the work up until last month. I have got a young man I am breaking in as an estimator, but I have always done it myself, until it got so it got too much that I can't do it all. I take the jobs on my bid, and we try to arrive at a cost plus a percent that we work on. We keep a record cost of

the different jobs we do, until the jobs are finished, usually, to see what we have done. I did the plumbing and heating in the Post Office building, the Court House, the Carter Building, Rice Hotel, S. P. Hospital, and I don't know, two or three build-

ings at Rice Institute, I believe. I also did the work in the Hadley and Preston Exchange Building. I have made an estimate of what it would — to reproduce the heating and plumbing in those two buildings. I made that estimate last year, some time, I think it was in September, I am sure it was. I made it on September 20th, 1919. My estimate to reproduce the heating in the Preston Building was \$22,176.00, and to reproduce the plumbing as it is in that building my estimate was \$13,293.45. The Hadley building proper, that was estimated at \$10,424.10. That includes plumbing and heating in that building.

Mr. Howard: Did your estimate set up by Mr. Houx include these items?

Mr. Duls: No, it did not. I should have had him testify to that, but I didn't.

I have not go- the details of my working sheets on this work, we destroy them after we fill a book, you know. Sometimes we carry them a while, and then again we clean up, we destroy them. Those figures represent my best judgment as to what it would cost to reproduce the heating and plumbing in those buildings.

I would not take the job at the cost I have estimated to reproduce it, I could not do it, because there have been too many advances since then in material; in fact all material except pipe line, that is wrought iron pipe. All other pipe and fixtures have advanced, well, as high as 25%, labor and everything else. I think we went to paying \$9.00 per day for labor, but I don't know whether there has been an advance in that or not, but I am sure there have been advances in the material prices. I don't remember when the labor advance was, but I think it was last August.

Cross-examination.

Questions by Mr. Howard:

I put the plumbing and heating in this building when it was originally constructed, but I do not remember what I charged for it. I charged much less than the estimate I made to put it in as of September, but I could not approximate the difference; a great deal of difference though. There's 100 to 150 per cent on some materials. Radiation for instance advanced in the six months twice 7½ per cent. Some material I put as high as 50%. Taking practically all the material, taking it all together and averaging it, it would average around 100%, I believe. In 1914 we were paying \$6.00 a day then, and we are paying now \$9.00, an advance of 50%. The cost estimate that I made was based upon September prices.

2595 Albert Baring, a witness for the complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is Albert Baring. I have lived in Houston since 1901, and I have been in the general contracting business during that time. I have been an independent contractor, doing jobs on my

own initiative and own responsibility.

As to my qualifications that enable me to judge the cost of constructing buildings, well, I have built several buildings here in the town. I built the City Hall Annex, Walker Smith's warehouse down here, I am building the Pittsburg Plate Glass Company's building now, the Hirsch Apartment and numerous other buildings here in town I have erected. I have made estimates of what it would cost to construct these buildings and then I have put in my bid for them where my bid has been accepted and constructed them.

I have made an estimate of what it would cost to reconstruct the Hadley Building of the telephone company, and also the Taylor Building. The figures that I have arrived at does not include any plumbing or heating or wiring or anything of that sort. I was requested by the architect to make an estimate of those buildings and leave out the heating, plumbing and wiring. For the Hadley Building I arrived at the figure of \$73,301.00, and for the Taylor

Building \$29,944.00, those figures represent my best judgment based on my knowledge and experience of the business 2596 as to what it would cost to reproduce those buildings at that I think it was in November somewhere, November 14th, that I made my estimate. I would not undertake to construct those buildings at the prices I estimated it would cost to reconstruct them in November 1919 unless you would add the difference in the material and the labor, whatever it has advanced since that time. Labor and material have advanced. For instance: brick masons, I am notified now, that on the first of April, they are going out for \$11.00 a day. We are paying them \$9.00 now. I do not remember what we were paying at the time I made my estimate, but they want \$11.00 from the 1st of April on. Common labor I paid at that time \$3.60 a day. The carpenters expect to go out for a dollar or two dollars more, I don't know how much it will be. The painters are out now for a dollar raise. Material prices they raise any time. You can't buy nothing unless you get it right now. If they take the order they will tell you they take the order and see if they can give it to you for that price, and sometimes they will keep it for thirty days, and then they will write you and tell you they can't furnish it at that price. In making my estimate I took into consideration the quality of material that is now in the building.

Cross-examination.

Questions by Mr. Howard:

I am building a building now which I took under competitive bids three months ago. Right now, I am not figuring to take con-Everything I take will be on a percentage basis now. 2597 We have gotten to the point now where contractors can't take it any more upon a certain specific price. I did not construct either of these buildings originallu, but I happen to know when they were constructed. I was figuring to get the Hadley Exchange because I was building the Hirsch Apartments within a block, out on McGowan Street, and William Miller & Son beat me \$500 on the contract. I bid on it but I was not the lowest bidder. That was \$28,000.00 without the addition. That addition was built later. In making this estimate here I went ahead and took off all my quantities over again and took the building as a whole. addition was not quite 100 per cent of the Hadley Exchange. think my bid originally on the Hadley Exchange proper, without the addition, was \$28,000.00, and the addition I wanted \$14,000.00 for it; would have been \$42,000.00, and I put the reconstruction of the whole thing now at \$73,000.00, that was in November; it is not quite 100 per cent, but it is about 100 per cent now. And it has got to the point now that if I valued these properties in April it would still be higher if we have to pay the increase in cost of materials and labor. Down here on the Pittsburg building fellows gave me prices on my gravel at \$3.70; and when it come to delivering it they would not deliver any, and I had to go out and pay \$5.00 a yard for it. The cost of constructing this building is pretty nearly double of what the cost was in 1914. The man that constructed the building beat me about \$500.

Redirect examination.

Questions by Mr. Duls:

would have to pay for materials today, prices that I would have to pay if I was going to reproduce the building. I do not look for any decrease in the prices of labor any time soon because I think it is an unknown thing for labor to go down; it never has gone down. Of course I don't know what it will do between now and April. I have never known of labor prices decreasing any considerable extent, not since I have been in business. There was no work done on any of these buildings in 1919, on the Hadley and Taylor building, there was no work actually done, the building was built and had been built for several years. There was only one little addition made to it, and I believe I done that myself, I believe in 1915 closing in that little outside stairway, amounted to \$150.00; that was the only addition I know of.

Mr. Duls: Now, Your Honor, there is one other witness we want to use, Mr. Perkins of the Otis Elevator Company. We want to get him to testify what it would cost to reproduce the elevators in the Preston Building.

Mr. J. D. Frank: Mr. Hoag has included his estimate in his

appraisal.

Mr. Howard: That is all right, then. Introduce the estimate. Our main contention is it didn't cost you that. You will admit it is practically 100 per cent higher than it cost you, will you?

Mr. Duls: No, I don't know what it costs. 2599

Mr. Howard: Well, whatever it is, I don't care anything

about that.

Mr. Duls: This is a letter that was written by Mr. Perkins to the Telephone Company in response to a request about what it would cost to reproduce these elevators. He states in this letter it costs practically \$19,000.00. Do you want us to have Mr. Perkins?

Mr. Howard: No sir.

Mr. Duls: I want the record to show that Counsel does not object to this testimony.

Mr. Howard: Well, we will agree that if you had brought him up

here and had him duly sworn, he would swear to that.

Mr. Duls: You agree that he would have sworn that it would have cost \$19,000.00 to reproduce the elevators in the Preston Building.

Mr. Howard: I don't know whether he estimated it correctly or not, but I admit he was in that business and has made the estimates

just as these other men have.

F. M. Hoag, a witness for the complainant, was recalled for further examination and testified as follows:

2600 Direct examination.

Questions by Mr. J. D. Frank:

Page 1 of my appraisal shows the summary of the appraisal. It shows the reproduction cost of the various items entering into the telephone plant in Houston, Item 1 is "Land." I have used \$215,-187.00 as the figure which would be the cost of reproducing that land at the present time. The details of that appear on page 10 of the appraisal. That is Mr. George L. Wilson's estimate of the reproduction cost of the land and I have adopted the valuations placed on the land by him. In my judgment it is the correct valuation of the land at the present time, and is a very conservative estimate. That is for all the land used and useful in the Houston Exchange, and is the value of the land only, without the improvements thereon.

The second item in my appraisal is item No. 2, on page 1 "Buildings." I have found the cost of reproducing the buildings owned by the company of which are used and useful in the operation of the Houston Exchange to be \$476,550.00. That is the total of the estimates as prepared by these contractors in Houston as to the reproduction cost. A summary of that is shown on page 23 of the appraisal. I should like to add that the last three items on that page, that is, items D, E, and F are estimated costs of certain small buildings which we have in Houston, Item D, being our garage building on the Preston lot, Item E being a garage and storeroom on the rear of the Taylor lot, and Item F being a small frame building on the Texas Avenue warehouse lot. \$1,000.00 is the estimate I

made of the cost of reproducing the garage buildings on the 2601 Preston lots,—that is our estimate of the cost of reproducing that building at the present time. That estimate is based upon information furnished by the local telephone people in Houston. That garage building has been constructed piece-meal, and it was rather difficult to get at anything like an exact estimate of reproduction cost. I should say that the figure which I have adopted is a low figure, it is a low figure I should say, off-hand.

The next item I have here is the one-story frame building on the Taylor Central Office lot, used as a garage and storeroom, and I figure the cost of reproducing that at the present time would be \$500.00. That estimate was made in like manner as was the esti-

mate covering the garage and is probably low.

The next building is the frame building on the warehouse lots \$250.00, that estimate was made in the same way, and is perhaps

somewhat lower.

Now, as to the other buildings, the Preston Central office building, the Hadley Central office building, and the Taylor Central office building, I have adopted the estimates made by these various contractors. The Preston building was constructed about the year 1912, but I do not know the exact date. The original Hadley Central office building was constructed about 1910, and the addition was built about 1914, or the early part of 1915. The Taylor Central office building was constructed either the latter part of 1913 or the early part of 1914. That is, it was completed at that time.

2602 I am familiar with other central office telephone buildings throughout the State of Texas, and have prepared an exhibit showing the cost of other buildings throughout the State in com-

parison with the cost of these buildings in Houston.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 19.

(The paper was thereupon received in evidence and marked Plaintiff's Exhibit No. 19, and said Plaintiff's Exhibit No. 19 is transmitted herewith in Exhibit File.)

Mr. Howard: Now, really what is the materiality of going into the question of the value of your exchange all over the country when you have gotten evidence as to the value of your buildings that

you have constructed in this Exchange.

Mr. J. D. Frank: The object of the testimony is for the purpose of showing that the value that has been placed on these buildings is a conservative value. We want to show what it cost in general to construct buildings of this kind, and we think that the evidence is very material, and very relevant in this connection.

Mr. Howard: If your Honor please they have proven not only in a general way, but in a specific way and in some detail the value of

this real estate here. The valuation as they have proved them, have not been attacked, and I think it is very doubtful that they will be, and I suggest that considerable time might be saved by at least with-

holding the value of these other buildings. I don't appre-

2603 hend that they will be attacked.

The Master: I regard, Mr. Frank, the statement of counsel as an invitation for me to accept these valuations just as they are put on just at this time.

Mr. J. D. Frank: With that understanding, we are willing to

waive this.

The Master: Do I properly understand you?

Mr. Howard: You properly understand me. My proposition is this, that at this time at least there has been no attack made upon what it will cost to reproduce these buildings, if they were to be reproduced now. Of course I will not be understood as saying we are not going to see what these buildings cost, what they cost.

The Master: Oh no, certainly not.

Mr. Howard: I don't imagine that we still attack these values and at any rate it occurs to me that this line of testimony, it would be time enough to enlarge upon this question after we did make some attack, if we do at all, which I do not think we will do. I do not want to be committed to this transaction until we do. They stand in the record now unattacked. If some attack is made upon them—

Mr. J. D. Frank: If Your Honor will permit me to say just one word in answer to that. I don't think Mr. Howard is in a position to attack anything that we are putting in at this time. What we

want to do is to establish the value of these various pieces of 2604 property, and I think this evidence is certainly very material and very relevant for the purpose of showing that this is the value of the property. Now, if he don't intend to attack anything, why that is a different proposition. I can't tell what he is going to

attack when we get through, but it is up to us to introduce our record and introduce our relevant testimony—

Mr. Howard: Not cumulative testimony.

The Master: I think that the evidence would be clearly admissible in the event that there was any controversy as to these facts that are sworn to. That is my idea about it. But, if, on the other hand, they are not contested by the city in any way I feel like while I am not bound by Mr. Hoag's testimony, he being an interested witness, it would be at least strongly persuasive that the facts stated by him are true, and that being true, you have made out as to that a prima facie case.

Mr. Howard: And upon this question it has been sworn to by disinterested witnesses, the values have been fixed by disinterested

witnesses.

The Master: Yes.

Mr. Howard: And unless I can attack those values Mr. Frank, which I doubt very much we will be able to do, and which I will say now we have no present intention of doing—

Mr. J. D. Frank: Well, if you have no intention of attacking the

values, I admit that the testimony is irrelevant,

2605 Mr. Howard: Well, wait until we do attack them, before piling up testimony on them. That is just in the interest of

time.

Mr. J. D. Frank: The thought has just occurred to me that perhaps we would save time in the long run, and that it might facilitate matters for Mr. Howard, if he cross-examined the witness as to these various items of property as they go in. I know that he certainly would be in a better position to cross examine him, and bring out the facts and if Mr. Howard cares to do so, as I finish up each particular item of this property, I would be glad to have him go ahead and cross examine the witness, and then if he wants to make a general cross examination after we get through, he can do so.

Mr. Howard: It suits me all right. I have no cross examination upon the question of land, what it is reasonably worth now, I have no cross-examination because it strikes me that you have gotten it about right, from my best judgment of present prices, so upon the land

item I have no cross examination to make.

Mr. J. D. Frank: Well, that will be all of our evidence on the buildings; do you care to cross examine the witness upon that?

Mr. Howard: No, not upon the buildings. They have been proven up. I don't hope to elicit anything on cross-examination.

In this summary of my appraisal I show the cost of reproducing those buildings, and that price in there as the second

item on my summary of appraisal is \$476,550.00.

The next item in my summary of appraisal is Item No. 3, the distributing system. I find as the cost of reproducing that particular piece of property, \$2,488,660.00. The details of that are shown on page 38. The first item on page 38 is 3-A, Exchange Pole Lines. On page 39 we show the detail as to the unit cost of material of poles. A 30-foot Class C pole which appears on page 39 is priced at \$8.43 each. By turning to page 17, of Exhibit No. 17, which is the unit cost and material price book, the 30-foot Class C pole is shown on that page, the cost of the pole, the freight and the supply expense, totalling \$8.43. On page 42 of the appraisal, the labor and incidental cost is applied to all poles at an average price of \$4.89 each. That average price is used for the reason that our accounting and reporting is such that it is not possible to differentiate in the cost between the different types and kinds and sizes of poles. Page 23 in the Material Price List and Unit Cost Book shows the detail of the labor and incidental cost which go to make up that \$4.89 unit cost as used. I have taken up one of the items all the way through showing how I applied my material prices and unit costs. That would give you the total cost of the pole in place, and I have treated all the other items of the Distributing System in the same manner as I treated On page 42 of my appraisal I show there the total number of poles and the labor cost for those poles, the total number that.

2607 of poles and the labor and incidental cost has been applied to the total number. There are 17,258 poles and the labor and incidental cost as applied is \$4.89 for each pole. That includes the incidentals. That makes a total figure for the labor and incidentals of \$84,391.62, and I have already explained how I have

applied material price to that. The final total cost of all the poles in place, including the material, the freight, the supply expense, the labor and incidental cost for the 17,258 poles is \$287,130.44. In addition to the \$4.69 labor and incidental cost we have added for poles set in private property \$1.00 each, there being 897 poles on private property. I figure that is what it would cost to set those poles on private property, in excess of the average \$4.89 cost. I also figured that it would cost for setting poles in the cement walk and cribbing poles with concrete.

I have on page 38 a summary of the Distributing System, and that sets out the various items of property entering into the Distributing plant and also sets out the cost of reproducing those various items? I get as a total figure for the cost of reproducing the total distributing plant in the Houston Exchange \$2,488,660.00. It is the third item on page No. 1, the summary sheet of the appraisal.

Mr. D. A. Frank: Do you care to ask him any questions about that. Mr. Howard?

Mr. Howard: No, I think no. Just a moment, Mr. Frank.

Cross-examination.

2608 Questions by Mr. Howard:

I have a statement taken from our records as to the gross additions made to the Houston Exchange since 1910. The total amount of gross additions to aerial cable, which is a portion of the distributing system is \$518,558.00. The aerial wire, which is another portion of the Distributing System, the gross additions total \$336,750.00. That is since 1910. I cannot give you that as to how much has been added since 1914. It is totalled since 1910, and the totals would have to be worked over to give you the totals since 1914. That can be furnished you at a later period.

Redirect examination.

Questions by Mr. J. D. Frank:

I will furnish that to Mr. Howard.

Mr. Howard: That is all I have to ask him about, except did he testify before as to what prices, how he got these unit prices and cost of materials?

Mr. J. D. Frank: Yes.

Mr. Howard: 1918, was it, the prices that prevailed in 1918 or 1919.

Mr. Hoag: 1918 and 1919, in general.

The next item appearing in the summary of my appraisal is Item No. 4, Central Office Equipment. I estimate the cost of re2609 producing that part of the property in the Houston plant at \$1,156,480.00. The details of that appear on page 69, that is the Summary of the Central Office Equipment and the details follow on through to page 166.

I will take one particular item to show you how I arrived at the cost of reproducing that part of the property. On pages 70 to 108 of the appraisal is shown the detail as to the quantity of the equipment in the Preston and Capitol switchboards, also the prices of that equipment are shown, and finally on page 108 are shown the other costs, installation costs, etc. which enter into the installing of the equipment in the Central Office. The prices as applied to the detail of the quantities of equipment are 18-19 catalog prices, which prevailed as of October 1st, 1919. On page 108 is shown the cost of installing. The first figure, the first total figure on page 108 is \$473,664.45. That represents the cost of the material at the factory. The second figure is \$23,209.53. That figure is for special designing and drafting. The reason I have included an item of that kind in estimated cost is because after the telephone company places the order for the equipment with the factory, it is necessary for the factory to do a certain amount of special designing and drafting, in that each telephone building is different, and the equipment has to be designed and constructed for the particular buildings. In other words, we can't just say to the factory, ship us a switch-board down here, we have got to give them an idea of what we want, and special designing and drafting has to be done for the purpose of supplying that equipment,-or making that equipment fit in the particular telephone build-

2610 ing, in which it is to be installed, yes sir. That doesn't mean special designing and drafting of the material itself. It means the designing and drafting necessary to make that equip-

ment fit into the building in which it is to be installed.

I get at the total material cost, that is, the material with the special designing and drafting added \$496,873.98. The next figure is freight and cartage in the amount of \$17,390.56, which covers the freight and cartage from the factory to Houston, and to the Central Office building. The next figure is \$237,008.42, which is the installation cost, that is, the laber, traveling expense, board and lodging and other incidental expense incurred in the installing of the equipment in the Central offices.

The foregoing items, that is, the items of special designing and drafting, freight and cartage and installation costs are contract costs and with the prevailing contract prices for this kind of work

for 1918 and 1919.

The next item is the telephone company labor and that amounts to \$1,748.25, and covers the cost of certain work which the telephone company had to do, the running of jumpers, and the main distributing frame and similar small work that averages about 15 cents per line, that is, in addition to the contract cost.

I get at the total cost of the Preston Unit \$752,985.21. The other Central Office units have been built up in like manner.

2611 The summary of central office equipment is on page 69 of my appraisal. I get as the total cost of repreducing this part of the property \$1,156,480.49, which is the fourth item on page 1 of the summary sheet of the appraisal.

Cross-examination.

Questions by Mr. Howard:

This special designing and drafting item is done by the factory. Mr. Howard: You get at this cost, you, for instance on page 108 here, where you have the Preston Central office equipment, you detail the labor and material per unit, and then total it, and you get a total of \$473,664.45, but that is merely for constructing the equipment, and this special designing, you say, is made for the purpose of making the equipment for the exchange building?

Mr. Hoag: It is a factory expense, yes sir, which is incurred in connection with all central office equipment installations. In getting the equipment ready for installation, after the order is placed, then the factory have to do that special designing and drafting. The freight and cartage is based on actual contract cost for the years 1918 and '19, what it would cost to handle that much equipment. We handled equipment in 1919, we are doing it continually. That is we handled some in 1919, not anything like this volume of cartage. These prices were based on several hundred thousand dollars worth of work during the years 1918 and '19.

We did enough to know what the actual charges were per 2612 certain units and then applied it to the number of units that we have in this entire equipment. That is the way we arrived at it.

Mr. Howard: This installation charge \$237,008.42, it is nearly half, just about half—

Mr. D. A. Frank: Not quite a third.

Mr. Howard: About half the cost of the material, is it? Mr. D. A. Frank: Yes, it is about a third of the total cost.

The Western Electric Company in general does that work for us on all Western electric equipment. That is labor and the incidental expense that goes with it, the bringing of the installation crews to the jobs, the railroad fare, some of the board and lodging, of course, and the installation, after this equipment is manufactured, and shipped and ready to install, the installation charges are about 50% of the total material charges. That is in the case of central office equipment, and is occasioned by the fact that it requires skilled labor and is very difficult to install. In the Houston Preston central office equipment, I should estimate that there are over a million soldered connections that have to be made by this installation crew after the equipment has been placed in the central office building. It has to be assembled, all of the cables have to be They all have to be laid in individlaid in those switch-boards. ually, laced together, formed up.

I made a study of the prices and not only paid 2613 attention to the prices for 1919, but I considered prices for several years. The two major elements that enter into all of this construction is labor and material. I have not made any comparison with reference to how much material charges compare with those in 1914, and do not know,—I have not made any

comparison. The material used in central office equipment is detailed on Page 7,-starting on page 7, but the principal material used in central office equipment is the switchboard cable, probably constitutes 35% of the total cost of the material. I cannot answer off-hand how much cable has advanced since 1914, and could not

even approximate it, but would have to look it up.

The last item here, Telephone Company labor, is labor performed by the Telephone Company after the equipment arrives here, and during the process of installation. After the Western Electric Company has installed the equipment, after they have completed their job, then before that equipment can be actually placed in service it is necessary for the telephone company to do a certain amount of work. One thing the Telephone Company does before accepting the job is to make a complete test of all that equipment.

I don't know anything about where the money comes from to pay for anything, and cannot tell where the money came from that paid this item of \$1,748.00. Where the money comes from means

nothing in connection with the cost.

Mr. Howard: But it would mean considerable, though in the final value of the property as you carried it out and set it up here for the purpose of making a rate, would it not?

Mr. Hoag: As I understand you, what you really mean to question is whether or no it is a capital charge or operating charge, not where the money comes from.

Mr. Howard: That amounts to the same thing, if the money comes

out of operating expenses, it would not be a capital charge.

Mr. Hoag: But, it just reverses, it is a question of what you charge the money to, not where the money comes from. In a case of this kind the money is charged to the capital account, that is, to the cost of that equipment. Now, after that equipment is installed. and is in service then we have a gang to maintain it, clear trouble as it develops from day to day, repair switch-board cords, and do other similar repair work; that expense is charged to operation, that is, to the maintenance account, and is not charged to the capital This expense of Telephone Company labor would be charged to the 17-C account, which is the central office equipment capital account, in that the expense is incurred in connection with the construction of this equipment. These books are kept in accordance with the Interstate Commerce Commission rules. rules do not permit the carrying as operating expense of a great many items that partake of renewals and replacements, not of a great many About the only item that I think of off-hand, is the "Subitems. station Removal and Change Charge."

They do permit that 2615 to be charged as an expense, as an operating expense.

ever in connection with that charge the cost of the material, that is the value of the material which is removed when a telephone is removed clears through the regular capital account. If it is set up as maintenance and paid out of operating expense each year and is earned and passes into operation, it does not find its way into capital account, but, I say, the labor cost and incidental cost in connection with sub-station removal and changes is carried as an operating expense, but the value of the equipment which is removed is cleared out of the capital account at the time it is removed. That is necessary.

Mr. Howard: You mean where it is junked property?

Mr.Hoag: It does not make any difference what becomes of it,—

Mr. Howard: What is taken out of capital account?

Mr. Hoag: If a subscriber orders his telephone removed or cut off, the telephone might be taken out, in which case the value of that apparatus would be charged out of the capital account. That would be necessary to keep the capital account straight, but the expense in connection with the substation removal and changes, that is, the labor expense, incidental expense is an operating expense. That is the only item that I know of where the Interstate Commerce Commission permits of that method of handling.

The Telephone Company labor in connection with the Central office equipment installation is, after the equipment has 2616 been installed, has been completed, the foreman on the job

would advise the Telephone Company that it was complete and was ready for them to take over. Before the Telephone Company took it over, they would test it, and inspect all of the equipment, which is a pretty sizeable job. In addition to that the Telephone Company would run the jumpers on the frames. I think I have explained the way the outside cables terminate on a frame in the central office, and the way the switch board cables terminate on the other side of that frame to connect the line. At any rate it is a process they go through to see the way the thing is going to work. I feel sure that it is not handled in the maintenance account, but in a job of this kind where we are installing new work, the labor in connection with that would be charged to the 17-C account which is the capital account for central office equipment.

Redirect examination.

Questions by Mr. J. D. Frank:

Under great pressure and as an emergency measure we might install the central office equipment that we have here in the Houston Exchange in nine or ten months, but to install it in an economical manner would require approximately one year.

The next item in the summary of the appraisal is Item No. 5, Station Equipment, and I show the cost of reproducing that property as \$318,685.00. A detail of that is show- on page 167. I will pick out one particular item and explain how I found that cost. On page

168, one of the largest items is a No. 20 A. D. Desk Stand;
2617 that is the ordinary desk telephone. The price, as shown, is for the material, \$2.85. One page 154 of the material price list and unit costs is shown the material cost on the No. 20 A. L. desk stand, that being the fourth item on that page. The cost of the set itself is \$2.10 with the cords and the supply expense added, makes a total cost \$2.85. On page 156 is shown the detail cost of station installation. The cost of the desk stand and the other parts

of the station apparatus on page 168 is for the material only. The labor cost of installing that apparatus is included under the heading "Subscribers Station Installations" on page 169 of the appraisal, and the detail of that is shown on page 156 of the unit costs. That labor and incidental cost is \$3.20 per station. We have 17,732 of those desk sets in the plant. The total cost of reproducing those 17,732 sets is not shown in the total, but the total cost for the station apparatus is shown which is \$84,962.86. That is for that portion of it on pages 168 and 169. I have a summary of the station equipment on page 167 and the total is \$318,685, which is the fifth item on the summary sheet on page 1 of the appraisal.

On page 169 of the appraisal under the item "cost in place" I have the figure 20 cents, but that is an error and should be \$3.20, making a total cost of \$78,336. The total shows that this is in error.

Mr. Frank: We would like to have that corrected in the copy that has been introduced in evidence.

The Master: The copy that I have? Mr. Frank: Yes, page 169 of the Appraisal. 2618

The Master: Shall I make the change? Is that the idea?

Mr. Frank: Yes sir.

Mr. Howard: Down at the bottom "Ground Clamps," what is that? That is smeared too.

The Master: 14,980 here, the second one on the page.

Mr. Hoag: That is 7830. I am not quite sure about that second figure there. If I may I can correct them later. I have now figured it out and the correct figure is 720 instead of 7830. That does not figure in all the apparatus which is connected with the telephone sets. It does not include the receivers, transmitters and induction coils. As I have previously testified I excluded those because they are owned by the American Telephone & Telegraph Company.

Now, adding up the lands, buildings, distributing system, central office equipment and station equipment, I get a figure as the cost of reproducing those particular items of \$4,655,562 which represents the bare physical property, exclusive of the furniture and fixtures. tools and store equipment and stable and garage equipment. Those particular items which have just been mentioned are treated further down in my summary.

I have not included any overhead charges in estimating the cost of repreducing those particular parts of the plant. Neither have I included any overhead charges in my material charges and 2619

unit costs in arriving at the cost of reproducing those particular parts of the plant.

The next item which appears on my summary of appraisals is

"contingencies and omissions."

Omissions might be grouped under two or three heads. human omission due to failure to count or list all of the multitude of parts which go to make up the property. The intentional omissions such as the extra length in the sag of the aerial cables. I have testified that the aerial cables were measured along the ground beneath the cables, and the sag was not taken into account.

sary omissions, as in the case of hidden property, such as the concrete cribbing of poles which does not appear above the surface and is therefore necessarily omitted. The contingencies are things which might happen, possible but uncertain things which might happen in the construction or reproducing of such a plant, such as accidents, floods, bad weather, mistakes, fires and other similar things.

I have prepared an exhibit showing examples of contingencies and

omissions.

Mr. Frank: We offer that in evidence as Plaintiff's exhibit No. 20.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 20, and said Plaintiff's Exhibit No. 20 is transmitted herewith in Exhibit File.)

In fact I used a figure of 3 per cent which is 3 per cent 2620 of the cost in place of the physical property, exclusive of furniture and fixtures, tools and store equipment and stable and garage equipment and that gives me in dollars and cents \$139,667.00. The general statement on the first page of the exhibit is important. that it deals with things that means a good deal. The first item: "Nothing is included in the appraisal for either casualty or public liability insurance during the construction of the property. 2. No allowance has been made for fire insurance during construction on building, equipment, supplies and so forth. 3. Slow delivery of material and in some cases wrong kind of material shipped, often causes delays in the work and necessitates rush shipments of material by express in order not to hold up the work. 4. Supplies are damaged or lost in transit which delays on the work until the item can be found or replaced. 5. Workmen are severely handicapped and there is much delay due to rain, storms or extreme heat and disagreeable weather. On a bad day considerable time is lost either closing the work and taking proper precaution to protect the work and the public waiting on the job until the weather is favorable to progress."

I will take up a particular item of property and show how these

omissions and contingencies enter into it.

On page 2 of the exhibit, under the heading of "Land." first item is the "cost of Searches." That has not been included in the appraisal. The cost of searches has not been included in the appraisal. By the term "Cost of Searches," I mean that before this property could be purchased it would be

necessary to search the records to be sure that they could acquire clear title to the property. In other words the examination of an

abstract.

Item No. 4 on page 2 covers the fences and side walks which would be added to the property. None of those things have been taken into consideration in the appraisal of those lots. We have sidewalks and fences at all of the lots, we have drives and other concrete and curb work which costs considerable money, and they have not been included in the appraisal.

As an example: the Preston lot has a fence along one side and along the rear and it has a drive into the yard, concrete drive, and it has a concrete wash stand for the use of the garage people in

washing the cars. It has a curbing around the lawn on the front part of the lot, and none of those things have been included in the appraisal.

Item No. 5 under "land" is the "Resodding lot at completion of building." That we have done in all cases in Houston, and that has not been included in the appraisal. The land is torn up and

it is necessary to resod that after the building is put on it.

Under the heading of "Building" item No. 3 is the "Omission of awnings, screens, etc." We discovered that we had omitted that after we had compiled our inventory and they are not included,

although they are used on all buildings.

2622 Item No. 4. is "Increase cost of installing certain conveniences after building has been completed." It, of course, is always necessary, and has been necessary in the case of the Houston building to add some wiring and other similar things after the buildings were completed, just as a man always has to add to his residence after he has it completed by the contractor. I might add that I found a day or two that in the building up of our appraisal that we had not included in the reproduction cost of the buildings any architect fees. That amount would amount to some \$24,000 on the basis of paying the usual 5 per cent to the architect. That was an unintentional omission, and was not included in the estimated cost of reproducing those buildings at the present time. The contractor merely furnished me an estimate of what it would cost to reproduce the building at the present time, and I adopted that without adding anything for architect fees. Five per cent is the customary architect's fee for designing and superintending a building, and that would amount in all to about \$24,000. was not included in my appraisal, but I did not intentionally omit that, it was merely an oversight which I did not discover until a few days ago. If I started in to reproduce that building at the present time I would actually have to pay that money.

Under Central Office Equipment, Item No. 1, is the omission of certain items of furniture, floor covering and office fixtures. It is almost impossible to count and inventory those things without omitting certain things. Item No. 3, it is some times necessary to

employ local skilled labor for cabinet work and refinishing damaged cabinets, after it is turned over to us complete by the contractor. In connection with the installation of the considerable amount of Central Office Equipment and apparatus

the workmen always damage those things, and it is always necessary to refinish them.

On page 3 of the exhibit, Item 10, "Omission of certain extension bells, protectors, ground rods, switches, jacks, push button, buzzers and other inconspicuous or special equipment," which is not easily

seen when making the count or inventory.

Under "Pole Lines" the first item is the abnormal cost of excavating. A. Hard digging, and B, fluid soil. There is little or no hard digging in Houston, but this wet soil adds materially to the cost of excavating. I might say right there that our unit costs—I think I have said this before—represent the normal unit costs, and do not

take into account these excessive costs. Item No. 6, "No allowance has been made for the cost of stenciling poles." That was not included in the appraisal. Item 10. "No allowance made for poles wrapped at butt." It is necessary to protect the poles from teams and traffic to prevent them being broken, and that was omitted from the appraisal.

Under "Aerial Cable" Item No. 1, "No allowance has been made for increased length due to sag of cable suspended." In Houston there are approximately 10,000 strands of cable, almost one million feet, sup-orted on suspension strands. The average sag of each

strand of cable must equal 15 inches; on the basis of 12 inches, however, that is 10,000 feet of aerial cable which has not been included in the appraisal. The average size aerial cable costs right at 75 cents per foot, and that would mean in turn

approximately \$8,000 omitted in that item.

On page 6, under "Underground Conduit" Item 6, "work done out of regular hours to avoid interruption of street traffic." That is a very real thing in the down town section of Houston. It is becoming almost impossible to work, to open manholes and do other underground work during the day time on account of the traffic congestion, and it costs considerably more to do the work, of course, on an overtime basis than it does during the regular hours. We have to pay the men overtime when they work after night time, and in addition their efficiency is considerably less at night than at day time. In estimating the cost of reproducing this plant, I have estimated the cost under normal conditions and made no allowance in my unit costs and material prices for doing some of this work out of the regular hours.

On page 7, under "Underground cable," the first item is "water in manholes, gang delayed while this was being pumped out or bailed out." That is a very real source of expense in Houston. Our conduit system stands full of water most of the time, and it is necessary to not only pump out the system before we can work in the manholes, but it is also necessary to pump and bail out during

the time the work is being carried on.

On the last page, Item No. 6, "Delays to gang on account of gas in manholes, which has to be removed before work can proceed." Illuminating or sewer gas is always present to a greater or less extent in underground conduit systems, and we have to use electric blowers when the gas is bad, and make other special arrangements before the men can work in the manholes. things cost money. One other example of contingencies and omissions not connected with telephone work, but a very real example of what contingencies and omissions mean, are the slides which were encountered in the construction of Panama Canal in the Culebra Cut. An engineer estimating the cost of that cut at this time, not knowing about those slides and the enormous expense which was entailed to clear them, to clear the canal, certainly would not include that in the estimated cost of reproducing the canal. actually have these other matters that I have mentioned in connection with the construction of telephone property, and I am not merely conjecturing as to these various things. There is not an item listed under the head of contingencies and omissions in this exhibit, but what I have experienced at some time or other in the doing of telephone work. I have been in the telephone business for 20 years, and am speaking from experience when I say these various things happen in the construction of telephone property.

I used a figure of 3 per cent of the physical property for contingencies and omissions. I did that because I have read over a large number of commission and court decisions in connection with rate cases, and in all cases allowances were made for contingencies and

omissions. The allowances made varied from 2.97 to 5 per 2626 cent depending upon the kind of property being appraised,

and inventoried, and also to some extent upon the care which had been exercised in the making of the appraisal. I know that such an allowance is generally made by other engineers usually from 3 to 5 per cent, 4 per cent probably represents an average allowance. Therefore I would say that the figure of 3 per cent was a very fair figure.

Mr. J. D. Frank: If Your Honor please, I would like to refer to six or eight cases—it will not take more than five minutes showing the allowance made in other cases.

The Master: Go ahead.

(Thereupon Mr. Frank presented some authorities to the Master.)

Cross-examination.

Questions by Mr. Howard:

"Q. Mr. Hoag, this item of omissions and contingencies, that is usually brought into play when one goes out to estimate the cost of producing a plant that is to be constructed."

"A. In connection with determining the reproduction cost of the

property.'

"Q. But when you have the plant already constructed, and there is nothing to do but make the count, it is a question of making an accurate count, is it not?"

"A. That is practically impossible."

"Q. Don't engineers recognize such a thing as compen-2627 sating errors in making an inventory? In other words, all the errors are not against the company and tend to increase the cost of construction?"

"A. In our inventory of the Houston Exchange property, we didn't find in checking the field men that they had duplicated but

three items, as I recall it."

They will not duplicate to the extent they will omit. I don't know that engineers often make an allowance for compensating errors that tend to reduce the cost offsetting the errors that increase the cost. That may be a careless way of engineering, but not an ac-

curate way of engineering. I have made a considerable number of inventories and appraisals, and it is just as I tell you you, practically impossible to make a complete count. No, you are not just as liable to count eleven thousand poles as you would nine thousand poles when you go out to count ten thousand poles because in the making of inventories we take special care to see that there can be no duplication. We try to see that we get them all in, but we do not succeed. It is easier to guard against duplication than it is to guard against omissions.

Mr. Howard: Although you have got conditions before you and looking at them. This is not like if we had no telephone company, and you went out entirely relying upon estimates and plans to reconstruct the plant, you have got nothing to guide you at all in that case, but in a case like this you have got the whole plant, and all you have to do is to look at it. It will take some time, but you will

devote that time to it.

Mr. Hoag: Yes sir, but as an example. I a short time 2628 ago tried to list all my household furniture for insurance purposes, and had to go over it four times before I had included in that list what I thought constituted all of the furniture and that is a very simple inventory. I am sure I did not get down any of the furniture twice. It would be a natural mistake if I had a great deal of furniture to list a lot of these small articles, count them once and set them aside and somebody else come along, especially if two or three men were working on it, but it is much easier to check duplications than omissions. You would have to go on the ground and do all the work over again. I did not add this three per cent because the Commission thinks it is a very good thing to do, but I did it because I think it the proper and fair thing to do. I did not do it without regard to the Commission, I considered the Commission and Court's ruling, the Court's findings. I made the percentage low, 3 per cent instead of 5 per cent, because I felt we had a very careful inventory of this plant and I am reasonably sure we did not duplicate anything.

"Q. When you are estimating the cost of reproducing a plant, you do not assume that the sun is going to shine every day in the week, every working day in the week, and there is not going to ge any over time, or that there is not going to be some trouble to be confronted, do you? When you make the estimate you carry that into your labor cost; don't you?"

"A. These labor costs are built up from actual experiences, actual performance. I have previously testified that I neither used the highest cost nor the lowest cost, but that I used my best judgment to obtain normal costs, eliminating abnormal costs

which I found existed in connection with the actual performance on certain jobs, which jobs I am familiar with. I eliminated from many of these jobs which I was familiar with the abnormal costs, the best way and the most accurate way for caring for these omissions and contingencies is in the manner in which we have attempted to care for them."

"Q. To assume in your construction you are not going to run into difficulties, and going to get your labor on the minute and your operators will always be on hand promptly, and there will be no rainy weather, no hard ground, and no liquid ground, and there will be no cave-in you will eliminate all those contingencies and when you get through you will add 3 per cent?"

"A. No sir, what you have said would mean figuring the cost of the work at the lowest possible expense. You assume that all con-

ditions would be ideal. I do not assume that."

In setting up this cost of reproduction I took my labor cost and material cost under conditions that actual experience has demonstrated attend this character of construction, with the abnormal costs eliminated. I testified previously that in the case of one job of underground conduit construction in Beaumont, it cost us nearly 30 cents, or 35 cents per duct foot.

"Q. My suggestion is, Mr. Hoag, and I expect that will be confirmed by your experience, that one particular instance does not create conditions of construction. We all know that at times,—like you cited the Panama Canal, there are times when one runs into conditions that reduce what appears to be a very profitable contract into a losing contract, but upon the other hand you are apt to run into conditions that are even more favorable than those upon which the estimate is based?"

"A. Yes sir, and I said that I tried to get on the middle ground."

That is a compensating element, but in building up these unit costs, I had to consider both the jobs that cost the least amount of money and the jobs that cost the most, and had to exercise my judgment as to what represented the normal cost, and that is what I have done.

I applied this omission and contingencies to the land because of services in connection with the land.

"Q. You first cite the cost of what you call searching, or getting the abstract or examining the title. Did you figure what 3 per cent on something over two hundred thoustand dollars' worth of land was? Wouldn't you get a total of something like seven thousand dollars for errors and omissions in buying two or three little pieces of land?"

"A. 3 per cent has been applied to the physical property as a

whole."

"Q. But you segregate them and undertake to justify the

2631 three per cent charge?"

"A. No sir, the physical property as a whole. If dealing with land only the percentage would be reduced, and if dealing with the distributing system only the percentage would be materially increased."

"Q. You wouldn't undertake to justify a 3 per cent omissions and

contingencies charge on buying this land, would you?"

"A. Land only, no, sir."

"Q. And articularly you youldn't undertake to justify them

upon land that had probably been bought at 50 per cent of its present value?"

"A. I am dealing with reproduction cost."

"Q. That is true, but I am asking you about applying these omissions and contingencies. You wouldn't like to have that stand as a fair example of omissions and contingencies the way it has been applied to this land?"

A. Not to the land individually. It has been applied to the total amount of property, physical property, and if you separate them you might says that one-half of 1 per cent is applicable to the land, and

6 or 7 to the distributing system."

"Q. The logical way would be to separate such items as land, when it amounts to \$200,000 and upon which there can be no errors

- and omissions—eliminate that item entirely?"

 "A. No sir."

 "Q. The possible cost of omissions and errors in buying a piece of land amounts to practically nothing, and can amount to very little."
- "A. It amounts to several thousand dollars in Houston, the side-walks, the curbing, the lawns, the fences, the drives, all 2632 of which things have been mentioned."

"Q. We are using telephone costs. We are not building a winter

garden, we are building a telephone company?"

"A. All those things are necessary on that land."

"Q. And you are willing to let it go down as a fair test of your idea of errors and omissions, that something like seven thousand dollars is a very fair amount to apply to this item of land?"

"A. I have certainly not said that."

"Q. You said several thousand dollars, what do you mean by that?"

"A. Probably \$3,500."

"Q. You would regard that as fair-you are willing to let that go in as your idea of omissions and errors \$3,500 on this land?"

"A. That may or may not be correct; that is a guess."
"Q. Take the next item, "Building." These building These buildings were built upon competitive bids, were they not?"

"A. Yes sir."

"Q. What has the telephone company got to do with, or what does it care about errors and omissions as regards these buildings?"

"A. I mentioned one big item, and that was the architect's fee, which has been omitted, and that in itself amounts to \$24,000." "Q. What other engineering expense beside the architect,

do you have?"

"A. Our engineering. It appears in this appraisal, but it does not contemplate the design of the building. They lay out the floor plan, and that floor plan is given to the architect who really designs the building."

"Q. Can an architect design a telephone building?"

"A. Yes sir."

"Q. Then if you did the engineering work and charged it up as engineering, there was no omission of the architect?"

"A. Architectural work and engineering work are two very different things."

"Q. Both brands of engineering?"

"A. But as used in this appraisal the engineering is telephone engineering-

"Q. Interrupting.) You mean preparing the plans, that is a part

of the architect's five per cent, for preparing the plans?"

"A. The architectural portion of it, but there is engineering expense in connection with those plans on the part of the telephone company, their engineering department."

"Q. That is getting up the building plans?"
"A. No sir."

"Q. If you have planned just how a building is to be constructed, that is all the contractor has got to do it from, those plans?'

"A. If I may explain what our engineering department does with the building plans before the architect starts to design the building. The telephone engineer lays out his floor

plan; he determines first the amount of business he has to care for, that is, to determine the amount of equipment which has to be placed. The operating conditions are determined, how that equipment shall be placed, and gets those things together and makes up the floor plan, showing how he wants the equipment arranged, and simply turns that floor plan over to the architect, and says, "this building has to have a strength of 300 pounds per square foot of floor space because we are going to put an enormous weight And "we want it seven stories high, and we want these ceilings of a certain heighth so we can place the equipment in the building when we get it. Now, knowing these arrangements, and knowing what we want, you design that building," which the architect then does. Two separate and distinct jobs."

"Q. He gives the architect the floor plan; then he doesn't have to

duplicate that work?'

A. Yes sir, most certainly he does in connection with his designing of the building. This little floor plan which our telephone engineer gets up cannot be used by the contractor. It takes the architect's detailed plans."

"Q. That would be a \$25,000 "little floor plan"?

"A. You are again trying to apply the four per cent to one par-

ticular item."

"Q. You say four per cent is your engineering expense, and that it has nothing to do with your architect's fee," and you say that little floor plan would cost you four per cent of a half million dollars, or twenty-thousand dollars, wouldn't it?"

2635 "A. I previously explained to you that these percentages are based on the total physical property, as a whole."

This item of 4 per cent which I have set up to engineering is by the telephone company's engineers. They are in the employ of the company, the regular corps of engineers, but they are not paid out of the operating expense each; engineering expenses are charged to the The Southwestern Telephone Company has a capital accounts. corps of engineers attached to its payroll all the time, but their expenses are not charged to operating expense, but are charged to fixed capital account, the salaries of all engineers. The engineers do not go about the plant all the time looking at work and maintenance and keeping the plant up and things of that kind,-not in general, the engineering has to do with the construction, primarily, but not altogether. I am reasonably sure that the salaries of the engineering corps of this company are not paid out of operating expense, but the accountant can tell you positively that engineering is not a part of the designing or planning of this building, which is ordinarily the work of an architect. I have explained previously that a certain amount of engineering is necessary before the architect can design The one who owns the building has, in some rough the building. way, to tell the architect what he wants before he can start the building, but in connection with telephone buildings it cannot be told in a rough way, it has got to be told in detail. I do not think it would take \$10,000.00 to get in draft what they wanted before the architect

can go to work. I have previously explained that the con-2636 tingencies and omissions expense of 3 per cent was applied to the total amount of the physical plant as a whole, and the same thing applies in the engineering, the actual engineering expense, considering buildings only, might be less than four per cent, but the engineering expense on another class of plant like the Distributing System, might exceed and would, exceed four per cent. Four per cent is not a good allowance even for that. Allowances generally made for engineering vary from four to six per cent. It might run as high as six per cent on a particular class of plant, it might exceed six, it might run as high as eight or ten. In this set up I have allowed four per cent for engineering, including the buildings, that is a composite figure. The engineering on land might run less than the engineering on buildings. I have got the land in here too so that it would bring it up about an average of four per cent for all classes of plants. I would not figure that four per cent would be about right for buildings, but I figured four per cent would be right for all classes combined; our engineering has been costing us four per cent for a number of years in the State of Texas. of architects was not a contingency, that was an omission. If I had not happened to have mentioned that item of architect- I would not have been without an example because in the exhibit that was submitted attention was called to many other things. Another concrete thing is some special railings that has been added on the stairways

in the Preston Building, from the seventh floor down to the 2637 first floor. I don't know exactly what that railing costs, but it is expensive. In addition there has been wiring added and many other things. I do not think of any compensating things on the other side that might offset some of this as applied to the buildings, but I have thought of the matter in a general way.

I have taken the figures of the American Construction Company in constructing these buildings and accepted the estimates as prepared by the contractor. The American Construction Company did not build this Preston Building, the Fred A. Jones Company built the Preston Building. I got Fred A. Jones to make the estimate upon

the cost of reproduction and that will be submitted by another engineer. The Fred A. Jones Co. has made the estimate on the cost of reproduction and it will be submitted by another engineer. I would not say that this estimate has been made by the highest bidder that bid upon the construction of the building because I don't know that the American Construction Company was the highest bidder, but presumably it was higher than the lowest bid. It would depend on how the estimator worked as to whether or not if they carried their relative proportion of estimating into the reproduction, whether there would be a lesser estimate than the American Construction Company has made. It is possible that if this reproduction was let out now on competitive bids, there would be bids lower than the bid that I have accepted just as it actually was when we constructed the build-

ing, and it is also possible and probable that there would be 2638 higher bids. If this would be let out on the lower bid, I don't

see that it would compensate a good deal for these omissions, which I have set up in favor of the company. This estimate that we have used is an estimate of the reproduction cost of the building at this time as made by the American Construction Company. I cannot answer as to whether we got that on competitive bids, the way we constructed the building that it would necessarily follow that we would let the American Construction Company reproduce it, I could only answer that after seeing all the estimates prepared by other contractors. I couldn't answer as to whether or not we might find by getting a lot of competitive bids that we could build this building for less than the American Construction offered to build it, I could not answer that without seeing the other estimates, but of course it is a possibility.

"Q. I am asking you if the American Construction Co., when you actually built this building were excessive in their bids, that their estimates actually carried the cost of the building beyond what you

actually built it for?"

"A. I don't know that."

"Q. You know they were higher than the company bid it?"
"A. I assume that they didn't for they didn't get the job."

"Q. You are willing for the assumption to go in the records. So that, if you carry it through, you take the two estimators on the building, and their idea of how they should do it, and their shortcuts and economies in building run along the same way as they

did in 1914 when the building run along the same way as it did in 1914 when the building was constructed, the Jones Company would build the building for less than the American

Construction Company?"

"A. Your question will be answered when your estimate of the Jones Company is submitted in evidence. That will be done by

another engineer."

"Q. But it won't be done by the same man who built this building, they will come in by men who have been employed by the company to go out and make estimates; all of these estimates do come in that way?"

"A. These estimates represent the best judgment of the men who make them as to the reproduction cost of the building at this time."

If we were going to reproduce this building at this time, I would accept that estimate, that bid which was prepared first by the most responsible contractor, a contractor who we can be assured would do a first class job, and second, the contractor who made the best estimate, that is, the best bid, that might be lower or it might be higher.

"Q. Get the question this way: If you wanted now to put up another building just like the one you have got down there, would you ask a certain lot of contractors, tell them that you would like to have their estimates of the cost of reproducing that building, so that they could come up here and testify in this hearing for you.

and that they would be paid a reasonable sum for making 2640 up their estimates, and they went out in that way and you

got those figures from them in that manner, would you, if you wanted to build another building like that just across the street from it, take their figures as a basis, and contract with them upon the basis of those figures for constructing the other building?"

"A. I am not sure that I follow you.

"Q. But don't you know you wouldn't do it, don't you know that you would say, "Here, gentlemen, I am going to construct a building, now all you all get down and get your pencils and get them well sharpened, and get to work, get these bids down to where you are going to do business with me," and they would get busy in a different manner, you know that as a practical man, don't you?"

"A. I don't know that."

I don't know that, they have testified or the American Construction Company man testified that this was their estimate of the reproduction cost of this building at this time. It wouldn't be possible for me to go back of that man's statement without going through his figures in very great detail.

"Q. I am just asking you that question, would you accept figures that are gotten up in this way and contract with the contractor upon those figures, or upon any of them made in that way with the idea

that they just estimate a building and come in here and tes-2641 tify to it, would you do it as a practical engineer, and as a man that was trying to conserve the interests of your employer?"

"A. As I understand the way those-

"Q. I didn't ask you that."

Mr. D. A. Frank: I want to object to Counsel's method of interrogating the witness; whenever he asks the question, I think the witness has the right to answer the question.

Mr. Howard: That is very true. Upon the other hand, Your Honor, I suggest that when Counsel asks a question and the answer as he started to make it is not at all responsive.—

Mr. D. A. Frank: I don't see how Counsel can determine whether the answer is responsive or not.

(The question was thereupon read to the witness.)

The Master: Now, Mr. Hoag, answer the question as directly as may be under the circumstances and you will be permitted on cross-examination or otherwise to explain the answer fully.

"A. Yes sir, I would accept those figures, in that it is my understanding that those figures have been prepared in like manner as they would have been prepared if the contractors were bidding on the construction of those buildings.

"Q. And that would satisfy you, would it, Mr. Hoag?"

"A. Yes sir."

"Q. And is the utmost effort that you would make in order to get the building constructed as cheaply as possible?"

"A. A comparison, of course, would be made between the bids, between the estimates as submitted by the various contractors

and then-"

"Q. (Interrupting.) Now, just one more question and we'll pass from that? Then you would be as well satisfied with bids—with figures and conclusions of cost of construction made by contractors who go out under employment to say what it reasonably cost to reproduce the buildings for the purpose of testifying in court, that you would be as well satisfied with those figures as you would with figures made by contractors who were anxious to get the job of building, knowing that it would be less than—"

"A. Yes sir—"
"Q. Well, the—"

Mr. D. A. Frank (interrupting): I ask the court to permit the witness to go on and make the answer as best he can.

The Master: Read into the record exactly what Mr. Hoag has to

Sav.

"A. Yes sir, I understand that those estimates have been prepared in like manner as bids would be prepared covering the construction of those buildings."

I think it is human nature to prepare them as carefully in this method as they would when they knew that their profits or

2643 less in construction depended upon it.

When I spoke yesterday about the sag of the wire as an instance of omissions and contingencies I was speaking of the aerial cable, and that also applies to aerial wire. Aerial cables are purchased by the foot, and they do not stretch any,—not appreciable, no sir. If these cables are spread over a cross-arm of a pole today and you go out there a year from today there will be a slight give, of course to the supporting strand upon which the aerial cable is placed. However, our standard specifications covering the initial placing of aerial cables specifically provide that they shall be strung with a certain sag, that is to prevent the excess strain being put upon the pole structure and upon the supporting strand which carries the cable. If you add that sag to the space between the two points you will have the real length of the cable employed. The amount of sag could not be added to the lineal feet, it would have to be estimated. But that is not the usual way to do it. I cannot say

which way would be the more accurate. We know the sag is there, but we would have to estimate as to the amount of the sag.

Redirect examination.

Questions by Mr. J. D. Frank:

Those contractors who have made estimates of the cost of reproducing these buildings were not requested to make those estimates just for court purposes, but they were requested to make esti-

2644 mates of reproduction costs of these buildings. The request was made through Mr. Gottlieb, or to Mr. Gottlieb, of Sanguinet, Staats & Gottlieb, architects, and he in turn requested these various contractors to make the estimates. I don't know whether or not the gentlemen knew that they would be called upon to testify in this case when they were requested to make these estimates.

Counsel for the City has referred to omissions which may not have occur-ed but it is a fact that a great many of these things were unintentional omissions, but those omissions do not constitute the only thing that is included in this figure of three per cent, which I use here. The intentional omissions such as have already been mentioned and the necessary omissions, such as concrete cribbing around poles. That cribbing is placed beneath the surface of the ground and usually cannot be seen. In inventorying this Houston plant, we knew that we had a large number of poles that were cribbed beneath the surface, but only in two cases did the concrete cribbing appear above the ground, and therefore there were only two poles inventoried as being cribbed with concrete.

I testified that in addition to the architects' fees, amounting approximately to \$24,000.00, which was unintentionally omitted from my appraisal, that various other things have been added to the people, among other things, the extra railings on the stairway in the Preston Building. Railings are on each floor, and on the stairway

from the first floor to the seventh floor, the stairs are arranged in flights, there are three flights between each floor, and the railing parallels the stairs. We are not undertaking to mention all the things specifically which have been added to the building since the building was constructed, but we have tried to cover it in a general way in the exhibit which was submitted among other

things which might have been or were omitted.

The usual practice among engineers with reference to the valuation of contingencies and omissions is to apply the percentage in the same manner as I did, to the total amount of physical plant, and not to subdivide it under classes of plant. I could have worked this out as to each particular piece of property, that could have been done, and if I had worked it out in that way contingencies and omissions would amount to one-half of one per cent or one and one-half per cent on the land, but of the Distributing System it might amount to seven or eight per cent. What I have done is take the average on the property as a whole instead of confining it to one or two specific points. I should like to say something in connection with contingencies and omissions. This telephone property, the

Houston Exchange, is scattered over a very considerable area. A man might go out into a field with ten thousand dollars and scatter them over that field. Then he might start and gather up those ten thousand silver dollars. It is certain that he would not gather up more than ten thousand silver dollars and it is fairly certain that he would gather up a less number, but, I think applies in the case of this property, this plant.

2646 Mr. Howard: If he made an accurate search, he would

get them all, wouldn't he?

Mr. Frank: He would have to hunt a long time, too. It is the same with my inventory here. I started out and made it the best I could, but I know from actual experience that you are never able to count all of the property entering into a plant of this magnitude. I did not make an allowance of three per cent in this case just because the commissions were accustomed to making allowances of this kind, I did not do it for that reason. I assume that the Commissions make allowance for engineering, in that they have been advised by high-class technical men who understand what it means to construct and design property, that engineering expense was necessary and that engineering expense was always incurred in the construction of property. The Commissions and Courts must have been advised relative to Omissions and Contingencies in the same manner. All first-class engineers make allowances for those.

With reference to this engineering for building. The engineer does not just advise the architect what must be done and then wash his hands clean of the whole matter, the telephone engineer in connection with building construction first prepares the preliminary floor plan showing the general arrangement of the building. After that, the architects design the building in detail, that is, they prepare the working plans from which the contractors make bids, and by which the contractors construct the building. The engi-

2647 neers also supervise in a general way the building construc-

tion work as it progresses. They in turn approve payments that are made from time to time as the parts of the building are completed, and are constantly dealing with the architects and the

contractors during the construction of the building.

Counsel has asked me as to whether or not the salaries of the engineers are paid out of current revenue. That has not got anything to do with my estimated cost of reproducing this exchange, where the money comes from to pay those engineers does not make any difference. What I am doing is estimating the cost of reproducing this property at the present time, and I am assuming that all of it is new construction, and the charges as made, that is, the cost of reproduction as prepared, represents the charges that would be made to the capital accounts. The engineering work in connection with maintenance is very very limited, and consists really of only advising the operating and maintenance people. Engineering does not enter into the maintenance of the plant to any considerable extent. The engineering that I have been speaking of here is all engineering with reference to new construction, and is the

engineering expense which is added to the capital accounts. The question of how it is charged does not enter into this case at all because I am estimating the cost of reproducing the Exchange,—everything is new capital.

With reference to letting the contracts for building these buildings to the lowest bidder, we do not necessarily let a job of that kind to the lowest bidder,—we also have to take

into account the responsibility of the bidders.

Mr. J. D. Frank: Now, if Your Honor please, I want to take up at this time the exhibit which we started in to explain yesterday with reference to the comparative cost of other buildings. At that time Counsel objected as to these details, and stated that he thought that he wouldn't go into the question of building and so on.

Mr. Howard: I haven't gone into it. I have limited myself specifically to these contingencies and omissions. I haven't attacked Mr. Jones' valuation. I haven't attacked the valuation of these buildings you have set up there, that he has made, I am attacking merely the element of contingencies and I say that as an off-set to these contingencies, there is in all probability and would be a compensating element in having plants let by the lowest bidder. I haven't yet attacked the cost of these buildings as set up in this estimate.

Mr. J. D. Frank: It seems to me, Your Honor, that Mr. Howard has very, very vigoriously developed the fact that a lower figure should have been used as to the cost of reproducing these buildings and I now ask for permissions to go in and show that the figures which he has used is a conservative figure and with that purpose in view, I want to take up that exhibit and show the actual cost

2649 of other buildings is as throwing light on this subject.

Mr. Howard: For the purpose of saving time and expense of encumbering this record, I will further insist that I will not attack the prices of those buildings as set up here. Mr. Jones or the American Construction Company has set up certain costs of this building. He has not set up any additions. Now, in addition to that they come on here and want to add 3% more. I have simply undertaken to show that that 3 per cent ought not to be added because there are compensating elements that off-set those things. While he might take those prices—this price and accept it, nevertheless, if they could have gone out and gotten competitive bids which would probably have been low enough to off-set those omissions that they set up in other ways. Now, furthermore, I object to it and I am doing this only in the interest of time and of the record, that it is not a proper way to prove values what the buildings cost in Fort Worth where the excavations are different and the freight charges are different and everything of that kind or what it might have cost to build one in San Antonio, is not evidence of what it would cost to build a building here where it is susceptible of being shown by direct evidence what the cost of building a building is and it would not be admitted before a jury or a court, sitting as a trier of fact. Of course, this is before the Master and not before the Court. A great latitude is allowed to receive all those things and

exclude them as material, yet this bearing is being prolonged, it promises to be very lengthy and all these things that tend to prolong it, I say should be eliminated where it is not competent testimony, particularly where we have not attacked this value

set up by Mr. Jones.

Mr. J. D. Frank: I will state that if counsel concedes that this is a reasonable valuation of those buildings, I will not press my point but unless he does, I want to come in and show and I think that the testimony is very relevant for the purpose of showing that the estimated cost of reproducing these buildings is a conservative figure. We have built other buildings similar to these buildings. We know what the cost of those buildings has been and I submit that that is very material in considering the proposition as to whether or not the estimated cost of these buildings is or is not conservative.

Mr. Howard: I don't think we would be bound to admit it, Your Honor. We haven't attacked it and they have direct proof in here

as to the value of these buildings, as this record rests.

The Master: The value of the buildings in San Antonio and Dallas would have in my judgment but slight weight but I am inclined to think, as far as evidence is concerned that it might have some slight circumstantial evidentiary weight and if they insist, I will sak them to put it in as briefly as may be

will ask them to put it in as briefly as may be.

Mr. Howard: I suggest, your Henor, that as a very primary predicate for the admission of this kind of testimony

at all, it must be shown that the conditions are similar.

Mr. D. A. Frank: We expect to do that, Your Honor.

Mr. Howard: And that the conditions at Dallas, Fort Worth and San Antonio, and those places, of necessity are not similar.

The Master: The conditions to a degree are similar to a slight

degree.

Mr. Howard: But they have got to show they are substantially the same before that testimony is admitted. I just submit it would be error to admit it in a trial before a jury because the conditions cannot be shown to be substantially the same, because they are far removed points, there is nothing to indicate that the same prices attach to material or attach to labor, or that the character of excavations for buildings are similar.

Mr. J. D. Frank: Well, we expect to show that.

Mr. Howard: It can't be shown and the conditions are such that they can't—in other words, they can't show what it cost to build a building in Dallas at a certain time as bearing upon the reasonable value of constructing buildings here. It is not proven that way. Isolated cases of what it cost to build buildings

2652 are not evidence of value. There are so many necessary elements that could enter into it. The way to prove value is to prove it by men who are familiar with the construction of buildings in the community under substantially the conditions in which the building in question was built and when that is done they have applied the most direct and logical way of making the proof and it is not proper, it is not the best evidence, and it is not proper evidence to try to fortify that by evidence that has only at

most a very remote bearing upon the question, and that is particularly true when the value as has been established by this direct evidence has not been in any way attacked. So, if we go into the construction of all these buildings in Dallas, it is liable to take a day to go into all those things. If we took only 20 minutes, I wouldn't object to it, but it is opening up a field for a whole lot of

this long drawn out and useless detail.

Mr. D. A. Frank: The long drawn out discussion is on the part of the Attorney for the City. If he had just kept quiet, we would probably been through with it by this time. The question is not the weight of the testimony but the admissibility of it. Your Honor hit the nail on the head when he said it might have some evidentiary weight. It is up to us to show that the conditions are similar. If the conditions are dissimilar, it can't be very much, but it certainly is admissible. Then the weight of it is for Your Honor to determine after it comes in. We offer the testimony because Mr. Howard has

directly attacked the figures which are presented by a gentleisa man whom he did not cross examine, and we were led to believe at that time that he wasn't going to attack him.

The Master: Just a moment, gentlemen, my view of it is that it might be perhaps admissible if we were trying this case before a jury and the weight of it would be entirely for the jury and we can probably get it in while we are talking about it. I would rather make a mistake by letting it in.

Mr. Howard: If it is, I will have no objection but I will be happily disappointed if they do, judging by the precedent that has gone

before.

Mr. J. D. Frank: I could have it in in less time than he has been arguing it.

This is Exhibit No. 19 and this Exhibit shows a comparison between actual costs of Central office buildings constructed in Texas and since 1914, and the reproduction cost of the Houston buildings as used in this appraisal. I have figured out the reproduction cost per cubic foot of the Preston building, and it figures 56.8 per cubic foot. As to how that compares with the cost per cubic foot in the State of Texas at this time,—we haven't a building, we haven't constructed a building of this same type of construction. We have built this year, however, a new central office building in Beaumont, which is a two and one-half story reinforced concrete building, about one-third the size of the Preston Building, and the cost of

2654 that building per cubic foot was 52.4. This Houston building which is a seven story steel and reinforced concrete structure, and a much finer building than the Beaumont Building was 56.8 per cubic foot. The Beaumont building is really comparable with the Hadley Central office building. The Hadley Central office building, the estimated cost of reproduction is 45.7 cents per cubic foot, as compared to an actual cost of the Beaumont building, a like kind of building at 52.4 cents. That Beaumont building was constructed,—completed in June 1919. That cost something like seven cents more per cubic foot than my estimate of the cost of reproducing the Hadley Exchange building in Houston. My estimate of the

cost of reproducing the Preston building is 4.4 cents per cubic foot greater than the cost of the Beaumont Building which was completed in June 1919, which is accounted for by the difference in type and kind and size of the building. I might call attention to the fact that the Hadley building has 186,237 cubic feet, and the Beaumont building has 189,000 cubic feet, indicating the like size of the two buildings. The Preston Building has 623,000 cubic feet. larger the building gets the more it costs per cubic foot as a rule, in that the foundation work, which is one of the very costly things in connection with building construction is, of course, very much greater for a seven-story than for a two-story building.

Cross-examination.

Questions by Mr. Howard:

2655 I do not think that actual cost is the proper way to get at the value, but I think it is one of the things to be considered in determining value along with many others. I don't know how to obtain the actual cost of these buildings We have no accurate record of the actual cost of these properties. We don't get anything we don't pay for, of course, and we don't pay out anything that we don't put on our books, but it has only been during the last four, five or six years that our accounting system has been such that we really have built up costs which amount to something. That Beaumont building was practically the same construction as the Hadley Building.

Mr. J. D. Frank: In connection with the next item of engineering, Your Honor, I would like to refer to a few cases on that. will only take about three or four minutes. I just want to show the allowances that have been made in a few other cases.

(Whereupon, Mr. Frank read to the Master authorities covering the next item of engineering.)

Mr. Howard: Mr. Frank, I assume that you are reading these things in order to direct the mind of the Master to certain things that the evidence may develop. Would you mind stating to him that there has been a change in the manner of charging overheads since the year about 1910, that prior to that time a great amount of the engineering was taken care of by the manufacturers to furnish the plant equipment, and was carried to a great extent in

2656 operating expenses, and it was only upon late construction that this 15% overhead was allowed, where it developed that the construction has taken place as of the present time, that these overheads have been allowed, but that on prior construction where it has been allowed at all, it has been allowed at a lesser rate.

Mr. J. D. Frank: If those are the facts, I don't know it, and I

could not make that admission.

Mr. Howard: You don't know about that?

Mr. J. D. Frank: No, sir, I don't know about that. I would be glad to be educated.

Mr. Howard: As long as these theories are being suggested to the Court, we suggest the theory that this plant was not constructed at the present time, that the greater part of it was not constructed at the present time, that a great part of it was constructed in the latter eighties, some part of it in the nineties, and it has been added to ever since; that during the course of that construction, a large part of it was taken care of by the manufacturer, that the engineering services were not called for, and were not used as they are in present day construction, and also that they are largely taken care of by way of operating expense which the company has earned.

Mr. J. D. Frank: I think you are in error about that.

Mr. Howard: Well, I am just suggesting that to the Master to have in mind.

2657 Mr. J. D. Frank: I don't see what that would have to do with the present cost of reproducing this property.

Mr. Howard: Your plant was not built in 1919, it was built prior to that time.

Mr. D. A. Frank: You are confusing cost with reproduction cost.

Mr. Howard: Well, they all run together. Upon that proposition too, we are submitting this entirely new theory that you won't find any city like this without telephone service at this date when you start in to build the plant up. I would like to have you keep these matters in mind because we will discuss them later on.

Redirect examination.

Questions by Mr. J. D. Frank:

The next item after Contingencies and Omissions is Engineering

First, the Interstate Commerce Commission prescribes that engineering expense shall be charged as follows: that appears on page 79 of the Interstate Commerce Commission's Uniform System of Accounts for Telephone Companies" That exhibit that I am referring to has been introduced in evidence and is exhibit No. 11.

The Interstate Commerce Commission defines "Engineering Expenses" as follows and provide that it be handled as follows: Account No. 705. "Engineering Expense. Charge to this account or to appropriate sub-accounts all expenses for engineering so as to show separately the follows: (1) Salaries and wages; (2) personal and incidental expenses of engineering department employees; (3) rent paid for office and (4) office expenses. This account shall be cleared by apportioning the total expenses to operating expenses and fixed capital accounts on the basis of service rendered, as determined by the actual time devoted to particular jobs or on an equitable basis fixed by the officers of the company." The reason I have taken the figure of four per cent, is because our engineering has been costing us in the State of Texas for a number of years. It is customary for valuation engineers to include an item of this kind. I have read over a good

many commission and and court decisions, and it is customary to

allow from four to six per cent as engineering expense. Five or six per cent is the usual average allowed but it is the practice among engineers to allow for this item. Therefore, I would say that this four cent which I have used is very conservative and represents what our engineers have been actually costing us. Four per cent which I have allowed for engineering, of the physical cost of the property would equal \$191,890.00. If I were starting in to reproduce this property it would cost fully that much for engineering expenses in connection with the value of the physical property. Engineering is a very necessary part of the work of constructing

any property of this kind,

One small item, for example, of the economies which are 2659 effected by careful and intelligent engineering would be in the case of the construction of say, an aerial cable. It appears to be a very simple matter to string a 100-pair ærial cable on a pole line in some sections of the city, but as a matter of fact before that cable is placed, a careful study is made of the amount of business to be had in that section of the city at this time, or at the time of construction, and a very careful estimate is made as to the amount of business which will be had in that section in the future, thus it is determined the amount of cable which shall be placed. 100-pair cable placed aerially costs approximately 50 cents per foot A 200-pair cable placed aerially costs approximately 86 per foot in place. Two 100-pair cables, placed aerially would cost a dollar as compared to 86 per foot for the 200-pair. That, of course, is due to the two suspension strands, and the work of placing the two cables as against the cost of placing but one. if the engineering is properly done, carefully done, intelligently done, then the proper sized cable will be placed. If there is enough business to be served by this aerial cable to warrant placing a 200pair cable, the 200-pair cable would be placed originally at a cost of 86 cents per foot. If somebdy simply guessed at what was required in that section of the city and said a 100-pair cable would serve, then, at the end of the year they might have to place the second That, I think, is a good example in a small 100-pair cable.

way of the economies which can be effected by intelligence engineering. Of course, there are many large problems in a multi-office exchange, such as is Houston, relative to the location of Central offices and things of that sort, and the time when central offices shall be established, etc. which are big, and which if the engineering is carefully done means great savings. The engineers make a study as to how much construction should be placed in any given territory, and then after they have made their study they draw up the plans and specifications of how that work should be done, the working plans, the detailed plans, we have general specifications which cover the work in a general way. Their duties are not ended when they make up those plans, they do not just turn it over to the construction people and they say "Here are the plans, do it in this manner", but after the work has been completed they make inspection to determine that it has been properly done, and makes the Construction Department correct any defects in like manner as we would make a contractor correct any defects in the case of building construction. They make inspection of the building while the construction is in progress. I have not included anything in my unit cost, and in figuring the cost of reproducing this physical property heretofore in engineering.

The next item of expense is "General Expense." I have used two per cent of that would amounts to \$99,741.00.

The Interstate Commerce Commission in their Uniform System of Accounts on page 74 of the issue of January 1st 1913 defined "General Expense" as follows: "General office salaries." (That is salaries of general officers). This account should include the salaries of the Chairman of the board, President, Vice-President, Secretary, Treasurer, Comptroller, General Auditor, General Manager, General Superintendent and all other officers whose jurisdiction extends to the operations of the company as a whole". This is defined "General Expense." If I may explain a portion of the general expense is charged to the cost of construction, that is to the capital accounts. A portion of the general expense is charged to the maintenance account, a portion of the general expense is charged to the operating accounts; that is subdivided in that way.

This two per cent that I have included here is not general expense, that two per cent is that portion of the general expense which would be chargeable to the capital accounts. In other words that is the amount of general expense which is incurred in making entirely new construction. The general expense as a whole is greater than two per cent. We have other general expense in connection with the operation and maintenance of the plant, but that is not included in this. I take this figure of two per cent because that is what our general expense has been costing us for some years in connection with construction work. That is confined solely to new

construction.

Cross-examination.

2662 Questions by Mr. Howard:

The Interstate Commerce Commission sets up how we can keep our accounts, and to what different items shall be charged. They have a general heading as to the expenses. This particular heading is "General Expense" and then they go on and prescribe how that General Expense shall be charged. General expenses include the officers of the company, from the general manager, on up including the legal department, and the president of the company, the general auditor, and other similar people, also including the clerks which they have in their offices, the rent for their offices and other similar expenses. This two per cent is two per cent of the estimated reproduction cost of the physical property. The Interstate Commerce Commission in their Uniform System of Accounts does not in any case say how much of the general expense or engineering or other expense shall be charged to any account. A certain portion of the general expense goes to construction. I have fixed that in this case,

at two per cent, in that that is the amount of general expense which has been charged to construction for a number of years by our company.

"Q. What is your two per cent here based on, in your set up?"

"A. It is two per cent of \$4,987,038.00."

"Q. You have applied the two per cent to the entire construction instead of to the general expense, haven't you?"

"A. No sir, this general expense which we are applying-

"Q. (Interrupting.) How is that?

"A. This general expense which we are applying to construction, this is a portion of the general expense.' 2663

I have explained what general expense is. It being the expense of the general manager and other officers of the company, vice-president, president, their clerks, office forces, etc. That is what general expense is, also the legal expense. A certain per cent should be charged to construction account, and in this instance I have applied two per cent of the estimated reproduction cost of the physical prop-That is what the Interstate Commerce Commission provides that the general expense shall be estimated in a fair way to the different accounts, one of which is the construction account. mary sheet shows that I have applied two per cent of the cost of the physical property, two per cent of \$4,987,038.00 as being the general expense which would be incurred in connection with the reproduction cost of this property.

"Q. Now, why do you do that now, Mr. Hoag, there are certain general expenses that you have defined, such as the salary of the president, the salary of the clerks, the salary of the attorneys and the salary of the engineers, a certain general expense?"

"A. Yes sir."

"Q. Then a part of that is what goes to construction account, a percentage of the entire cost of construction?"

"A. Yes sir."

"Q. Where do you get any foundation for applying a certain part of the entire cost of construction and adding it to

the construction account?"

"A. I have previously stated that for a number of years the general expense incurred by our company has equalled two per cent of the cost of construction, and I have therefore applied two per cent of the cost of construction in this case."

"Q. For instance now, you take a—well, we are building this building here at \$300,000.00, what is two per cent of \$300,000.00?"

"A. The application of general expense to a particular class of plant cannot be made. It has to be made to all of the plant as a whole, in like manner as does the engineering expense, and contingencies and omissions."

Our general expenses are a fixed definite amount, but they vary from month to month, of course, they cost a certain amount of money each year, and that amount of money is spread over opera-

tion and construction. I did not say a moment ago that in my judgment two per cent of that general expense should - allocated or charged to the construction account, I did not say that.

"Q. Well, that is the thing we are trying to get pro rated and charged to the proper account, isn't it, is the general expenses in the construction cost?'

"A. Yes sir."

"Q. All right then, let's keep to the text of the thing that 2665 we are trying to get apportioned. We are trying to apportion the general expense to certain accounts?"

"A. Yes sir."
"Q. Now then, if you didn't say two per cent a while ago should be carried to construction account, what part of that general ex-

pense should be carried to construction account?"

"A. My statement a while ago was this: That for a number of years the amount of general expense which has been charged to construction has equalled two per cent of the cost of that construction."

And that would not be regardless of whether we constructed a million dollars one year and fifty thousand the next. We are charging a certain per cent of the general expense to the construction account, and that amount of general expense which has been charged to the construction account by our company for a number of years has equalled two per cent of the cost of that construction.

"Q. But why bring in the construction item at all. We have, got fixed, definite, general expense, such as your President's salary, and such as your legal expense, and we know what they are. Then we know that a certain part of that should go to operating and the greater part, that is the part that these officers' time is taken up largely with, the operation of their plant, the business as it goes on

from month to month, and from year to year, that is in the 2666 operation of their plant, that is where their energies are largely

concentrated."

"A. No."

"Q. Then, if you figure out how much goes to maintenance, how much goes to construction, how much goes to the other sub-heads, that may be set up and then in your judgment, how much of that should go to the construction account?"

"A. The amount which I have shown here and which I have

previously explained.'

"Q. Why should it vary at all?" You have got those fixed charges that follow through the year, and what difference will it make what what part of any year this construction is done, those charges are fixed, those officers are there to serve every year, and if they construct five millions or two millions in one year, it don't tend to increase your general expense?"

"A. I might-

"Q. (Interrupting.) Does it, Mr. Hoag, it don't tend to increase your general expense one dollar, does it?"

"A. No sir, but I will explain that. During any period of time, when a large amount of construction work is under way, then the percentage as applied, that is, the amount of general expense as applied-

'Q. (Interrupting.) Well, why-Well, if you will let me explain it, I will tell you why.

"Q. Let's see that we keep together. You have already stated that regardless of the amount of construction in any

particular year, the general expense remains fixed, that's true? The general expense remains fixed, but the percentage as applied to construction or to maintenance or to operation varies in proportion to the amount of construction and the amount of opera-

tion and the amount of maintenance."

"Q. But if I get you now, in valuing these plants, you have got a lot of officers whose salaries will run \$60,000 in a certain year. and they will run that way whether you build two million or five hundred dollars of construction that particular year. That expense You have got that as a fixed expense. Then you must have that expense regardless of whether you construct one million or two million in a certain year, that is a fixed charge that you can't get rid of, then if perchance one year you build two million dollars of construction, then you take away from that fixed charge that's go to be paid, you take two per cent of that or a certain per cent of it, you charge a certain per cent. or a greater per cent of it up to construction. We are going to assume that these men are busy with construction and we will charge it up to construction, although you haven't spent a dollar of expense, that you haven't spent a dollar more-

Mr. D. A. Frank: I object to his question because he is talking about something entirely different from what the witness is. This is a reproduction theory, and this is an estimate by the

witness as to what the general expense would be in repreducing this property; in other words, the question of general expense in a reproduction figure is the estimate by the witness of what the expense would be for general expense regardless of the present organization, that is to say, that there would be general expense here if an individual started out to build this plant here, he would have that expense regardless of whether the telephone company has it or not, so that it is immaterial how the money is charged up.

Mr. Howard: If you carry that sort of thing in and ask to make a return on it, I will discontinue my examination, if you ate asking that your return value be augmented by that sort of thing, I with-

draw it, and I won't pursue the examination any further.

Mr. D. A. Frank: The light seems to be breaking in on you. Mr. Howard: No, if that is this utility's idea of fairness to the

public, I withdraw my question. Mr. D. A. Frank: It is not a question of fairness, every engineer that makes a valuation always makes a valuation of what this

Mr. Howard (interrupting): You rose to an objection and I have withdrawn same.

2669

Mr. D. A. Frank: Well, but you have some innuendo in your withdrawal.

Mr. Howard: Well, the fact is, I have withdrawn it.

Mr. D. A. Frank: Well, the fact is, that it is always charged, it is a legitimate charge.

Mr. Howard: That's all.

Redirect examination.

Questions by Mr. J. D. Frank:

It is a fact that we would have this expense if we started in to reproduce this exchange, it would reequire a certain amount of time of the officers of the company, and I know from actual experience in the telephone business in the past that it has actually cost equally that much to do construction work.

The next item is furniture and fixtures. I have taken \$19,894.00 as the figure in my appraisal to represent the cost of reproducing the furniture and fixtures in connection with the Houston Exchange. That is shown in detail in my appraisal. The summary is shown

on page 191 and the detail is on the following pages. The 2670 items included are those as listed on page 191; first, the local furniture and fixtures; the second item is the district furniture and fixtures; that has been excluded in that those furniture and fixtures are not used in the Houston Exchange. They are located here in Houston, but are not used for the Houston Exchange, and therefore I have excluded it.

The third item is the Division office furniture and fixtures. Only that portion of the Division office furniture and fixtures has been

included which is used for the Houston Exchange.

The next item is the proportion of the General furniture and fixtures in the general office at Dallas, chargeable again to Houston Exchange, the Houston Exchange representing approximately 14 per cent of the total telephone property in the State, and this figure of \$7,412.40 is 14 per cent of the total cost of the general office furniture and fixtures. I get a total for furniture and fixtures of \$19,894.21 which is item No. 6 on the summary of the appraisal sheet.

The next item, No. 7, is tools and store equipment, and I have charged up \$11,638.00 for that item. That is shown in detail in

my appraisal at page 264.

To show how I arrived at that figure, I might read this if I may, it explains fully. An inventory and appraisal of the tools and store equipment actually in Houston was made, but as these are

2671 not used exclusively in Houston, and as others in the State are available for use in Houston as well as elsewhere, we have taken a proportion of the tools and store equipment of the State applicable to Houston on the basis of the ratio of the book value for the State to the book value for the Houston Exchange. At the time I made my inventory there were something like \$8,000.00 worth of tools on hand in Houston. I have included in my appraisal \$11,637.54, and that is explained thus: Any of

the tools in the State of Texas are available for use in Houston. In like manner any of the tools in Houston are available for use anywhere in the State. At the time the inventory was taken in Houston, there were a considerable amount—a considerable quantity of tools generally used in Houston that were being used in other places in the southeast Texas Division. At times we will have as much as twenty or twenty-five or thiry thousand dollars' worth of tools in Houston, depending upon our activity; at other times we will not have as many.

If we didn't have these tools available for use in the various exchanges we would have to have all these tools in Houston, and it means a considerable economy insofar as the tool expense is concerned. If we had taken an inventory of this property in 1915, after the storm down here, if it had been taken at the time of the storm, or immediately after the storm, we would have had forty to fifty thousand dollars' worth of tools, in that we shipped in tools

from all over the State to handle the work incident to restoring the the service and rehabilitating the plant. 2672

Cross-examination.

Questions by Mr. Howard:

"Q. Those tools would cost you a great deal more now, wouldn't they, than when you bought them?" I say, the reproduction value is a good deal more than the tools actually cost, is it not?"

"A. No sir, I have previously explained that includes all furni-

ture and fixtures, tools and store equipment-

"Q. (Interrupting.) Well, if you say no, that satisfies me.? "A. (Continuing:) And stable and garage equipment."

Redirect examination.

Questions by Mr. J. D. Frank:

In other words I haven't figured the cost of reproducing these tools, but have used the actual cost of them as shown by our records.

The next item is stable and garage equipment, and I have included for stable and garage equipment \$10,219.00 and that is shown in detail in my appraisal beginning on page 286. I set out in those pages just what stable and garage equipment we have in Houston We have stable and that is used for the Houston Exchange.

garage equipment located in Houston, which is used outside of Houston, and is not included in my appraisal. I have not 2673 estimated the cost of reproducing this stable and garage equipment, but we have taken the actual cost as shown by our records.

Mr. Frank: Why have you taken the actual cost of your stable and garage equipment, your tools and your furniture and fixtures. Mr. Howard: We'll admit your item there, Mr. Frank, we'll ad-

mit the value is correct. Mr. J. D. Frank: All right, sir, I will withdraw the question. The next item is taxes during construction for which I have included \$101,720.00. That covers the taxes that would have to be paid on the physical plant during the construction period before the plant as a whole was completed. On page 2 of the appraisal and also page 3 is shown the amount of money which would be expended by quarterly periods during the construction period. I have taken three years as the construction period, which in my opinion would be the most economical period for reconstructing the plant.

On page 2 the first item is \$235,118.00, that covers the purchase of the land in the first quarter of the construction period. In the second quarter an expenditure of \$147,854 for underground

conduit, and an expenditure of \$5,040 for right of way would be made. In the third quarter expenditures would be made for buildings, underground conduits, right of way, tools and store equipment, stable and garage equipment, the total of those would be \$374,546. The expenditures are built up in that manner throughout the whole three year period, and on page 3 the total expenditures for the entire period is shown as \$5,128,530. On page 5 is shown a recapitulation of the expenditures for plant during the construction period, divided by quarters; also is shown the average amount of physical plant in place by quarters, and the amount of taxes which would be paid on the physical property. My estimate is based as to the amount of taxes upon the actual taxes paid for Houston for the year 1919 which amount is \$73,237.38 which covers State, County and City ad valorem taxes, and in addition covers the salary of the telephone inspector employed by the city, but paid for by the telephone Company. It also includes a franchise tax and a special school tax. I haven't the detail of that here, but those two items amount to some \$3.035. This does not include the Federal taxes, and of course, there being no income, it does not include gross receipts taxes, because you have no gross receipts,—this is a property tax wholly.

The reason I have included such an item as that in my appraisal is because the money would have to be spent, that is, the taxes would have to be paid from year to year, as the plant was completed, as it

was constructed, and those expenditures have been added to 2675 the cost of reproduction. I have made my estimate on the taxes which have actually been paid, and it is customary to make an allowance for this item. Engineers usually make an allowance of that kind, and it is also made by Commissions.

Cross-examination.

Questions by Mr. Howard:

I applied to these values the taxes assessed under the laws of the

State of Texes, and this municipality.

Mr. Howard: Then, if the law of the State of Texas and the City of Houston have assessed these taxes, assess-taxes only upon property on hand at the beginning of the year, you wouldn't apply it to this, would you?

Mr. Hoag: There is one error on page 4 that has been made in

building up the taxes paid. It was assumed in this study that these taxes would be paid by quarterly periods and as a matter of fact what you say is so. They would have been paid at the end of the year covering the amount of property on hand at the beginning of the year, and that error which I discovered day before yesterday means that we have included in this amount of \$101,720 for taxes a sum of \$4,000 which would not actually be paid, and that total is wrong to that extent, \$4,000

It is set up by quarters on page 4. We have assumed that we would pay for the first year, taxes in the amount \$420.00,

but those taxes would not be paid, or rather we have assumed \$401.00 for the first quarter, \$1,090.00 for the second quarter, \$2,016.00 for the thrid quarter and so on. Those taxes would not be paid until the first of the year. Those taxes would have been paid at the beginning of the succeeding year because that property would be on hand, on the first of January. That first year the taxes as shown would be moved up one year and the second year would also be moved up one year. I will go over that computation and check it carefully. This has not been based on an assessment at full valuation. We simply assumed that we would pay the same taxes as we actually paid for the year 1919 regardless of what the assessment was. I will re-compute that item on the Texas mode of assessing taxes.

Redirect examination.

Questions by Mr. J. D. Frank:

I will go over that and then take the stand at a later date and

straighten out that error on page 4 in the appraisal.

The next item in my appraisal is interest during construction, and I have included for that item, \$453,360.00. That is shown in detail on page 5 of my appraisal. On page 5 is shown the quarterly addition to construction, and the average amount of physical property in place by quarters, and the interest was applied to those

average amounts. That is carried through for the three year construction period. The first quarter we would have \$235,519 expended, and we have assumed that we would have that expenditure for half of the period, and have therefore taken the figure \$117,760.00 as representing the average amount of physical property in place for that quarter, and have applied to that interest at the rate of six per cent per annum. In other words we have not assumed that all of that property would be in place throughout the first quarter, but the property is built up as time goes on.

The reason I have taken six per cent as the rate of interest is on account of the four and one-half per cent licensee contractual arrangement which the Southwestern Telegraph & Telephone Company has with the A. T. & T., the Southwestern can get money from the American Telegraph & Telephone Company at 6%. In other words, I don't think we could go into the open market and get that money at 6%, and therefore I consider that figure conservative. The last quarter I treat in the same manner as the first quarter. During the last quarter we would add to the construction a total of

\$161,776, and that has been divided and added to the average amount of physical plant in place, as built up during the previous quarters, so that during the last quarter we would have in place \$5,149,362.00 worth of plant, and interest on that at the rate of six per cent would be \$77,240. I show as the total interest dur-

2678 ing construction \$453,360.00.

I have made a very careful study of how this money would be expended and when it would be expended, and that is shown in detail on pages 2 and 3, starting with the three year construction period, which I have considered as being the most economical period of time in which to reproduce this property, in that if a longer time was spent in reproducing the property the money invested would be lying idle, would not be earning anything for a greater period. And a shorter period would mean the expenditure of considerable amounts of money in that a great deal of overtime work would have to be done. During the first quarter of this three year period, in this study I have assumed that the land would would be purchased. That would necessarily have to be first, in that, until the land was purchased the building could not be designed, and neither could the underground conduit lines be laid out, or any of the construction work started. During the second quarter a very considerable amount of conduit material would have to be purchased, and tools and store equipment purchased, and stable and garage equipment purchased. During the third quarter it has been assumed that previous to the third quarter, during the first and second quarters, immediately after the land had been purchased that architects and engineers had made up the plans for the building, and that the work of construct-.ng the building had been started, and it was assumed that during the third quarter a payment would have to be made on the

buildings, in that a portion of the building construction would be completed. It is also assumed that a considerable 2679 amount of pole material and pole like work would be completed during that quarter; that underground conduit work would be continued, that additional expenditures would be made for rights of way, and that other tools and store equipment, stable and garage equipment would be purchased, in that they would be needed as the construction work increased. A second payment on the building was assumed for the fourth quarter, and a considerable amount of pole work, aerial cable work, underground conduit work, and other work would be done during that period. I have worked that out as to all of the other quarters. I have carefully made these estimates as to how much money would be spent during each quarter, and just where it would be spent. In preparing these estimates a skeleton lay-out was made, a pencil lay-out, to show how the work would proceed, when the material would be ordered, when it would be installed, covering each class of plant, and these expenditures are based on that careful study. I have not assumed that I would have to have all the money at the beginning of the construction of the plant, but we have assumed that we would get the money from month to month as it was required, and on page 5 we have plainly shown we have only charged interest on the money as it was expended. In other words we haven't included any item of interest of any money which might be lying idle. This interest during construction is not confined to money expended on the physical property itself, there are other expenditures made than the expenditures incident to the construction of the physical plant, and in this particular study the interest is confined to those expenditures made for constructing the physical plant.

Cross-examination.

Questions by Mr. Howard:

I think it would take three years to build a plant like this. is a matter of judgment, based on a very considerable amount of experience. I have assumed in this study that the construction would be carried on simultaneously. That is, while the building would be being built that underground conduit construction would proceed, and while the central office equipment was being installed in the buildings after they would be completed, that underground cables would be installed, pole lines constructed, aerial cables placed. The buildings certainly could not be designed and completed in less than one year. The manufacturer of the central office equipment after the order was placed,-and that order could not be placed until after the land was purchased,-could not be completed in less than a year. There is always some delay in connection with land purchases. Before this land could be purchased, we would have to make a study and determine the location on which we would wish to purchase the land. I have never built a plant like this up at one time, from the ground up in a city of 150,000 people, not a

plant of this size, and I never saw one built complete. 2681 has never been done to my knowledge. The whole thing is an estimate, but I would not say that it is a guess, but it is based on a very considerable amount of experience and good judgment, it is not a guess. I feel very sure that if I was called upon to reproduce this plant that I could do it in just the way that I have outlined in this study. Taking your assumption that this town had been behind the times, and had no telephone service, and I started in to give it one, I would go ahead and build the plant up to the very last finishing touch before installing any telephones, or furnishing any service. We would begin to install telephones in about the eighth quarter, that is, during that period we would begin to place the private branch exchanges and that type of station equipment which requires a considerable time to install. Then, in the ninth, tenth, eleventh and twelfth quarters we would be installing telephones and other station equipment. We would not begin at all before the eighth quarter, and would not provide any service until the end of the construction period,-no service at all. It would not be practical to build the plant in units so service could be furnished, and we couldn't furnish service at all until the whole thing was completed, because we couldn't operate a switch-board that wasn't connected up and that wasn't completed. We couldn't operate a switch-board without a storage battery, and all the other apparatus. Of course this plant we have here now took over three years to build, and we never discontinued service at any time. It has required some twenty-five or thirty years to build this plant which we have at present. As a matter of fact we have reconstructed this plant several times during that period. We started in with a small magneto switch-board and then installed a larger one, and again a larger one, and later installed the common battery, and later we installed a branch office; that is in addition to the down town office we installed one in the residence district, and later we installed another, and we expect to continue in that manner. To reproduce this plant as a whole there is no practical way of furnishing service to the people in less than three years, the whole thing would have to be built first, reproduce the Houston Exchange.

"Q. You mean if you were just starting out to see how much it could be done for, and were just concerned with it as you are now, as a theory, to see how much it would cost to reproduce it, it would be done that way, but I am talking about a concern that is not theorizing about it, but honestly wants to go to work to replace the telephone plant with a view of making money. How would they do it?"

"A. In identically the way in which I have built this up."

The time could not be shortened. Anybody who was reproducing this plant other than the Bell Telephone Company probably would take from four to five years, in that they haven't the efficient organization. This estimate is based upon the Bell

efficient organization. This estimate is based upon the Bell Telephone Company's managing it, on the Southwestern Telephone Company reproducing the property. This property might be reproduced in two years, but to reproduce it in two years would cost a very considerable amount of money. I doubt whether it could be reproduced in just two years. It might be reproduced in two and one-half years, but the building could not be completed, the equipment manufactured and installed in less than two and one-half years, but to complete it in two and one-half years would mean working probably three shifts of men, twenty-four hours a day, or mean working two shifts twelve hours a day. The total working time would have to be extended to twenty-four hours instead of eight, and that would require three shifts of men. It would mean excessive cost for all the work which would hardly be justified.

"Q. I see you figure this interest at three per cent, the average time, 6 per cent per annum, on account of the A. T. & T. Company's beneficial services enabling you to borrow money at 6 per cent. It wouldn't be any trouble to get money at six per cent in this community without the good offices of the A. T. & T. Co., would it?"

"A. My best judgment is that a business of this sort, paying the nominal returns which a telephone company does pay, could not even be financed in this State, in that money in this State in general, I am advised, earns more than 6 per cent. I am acquainted with, and have talked to banking people, and business people.

"Q. (Interrupting.) You proved here yesterday that the pre-

vailing rate is six per cent?"

"A. That is the rate on certain classes of loans."

"Q. These are good loans with the A. T. & T. and the Bell System behind it, it would be a pretty good loan, pretty good security,

wouldn't it?"

"A. It means the expenditures—investment of some seven million dollars and I have not included in this appraisal any brokerage fees, any promoting fees or anything of that sort, and those expenses would certainly be incurred, which I have not included in this appraisal. Those expenses would certainly be incurred in case the financing was arranged outside of the Bell Company, and would in effect increase the interest rates on the money.

"Q. It would increase the bonuses that the men who financed it would get, wouldn't it, and they are usually financed by the parent concern, by the mother of them all. She usually looks after them, and furnishes this money. It would just go to enlarge her profits a

little bit."

"A. I don't know just what you are referring to."
"Q. The A. T. & T. Co. owners the whole thing?"

"A. It is my understanding they own most of the stock."

"Q. They own this company?"

2685 "A. Most of the stock."

"Q. When you talk about the Southwestern Telephone Company doing this, and the A. T. & T. Co. doing that, it is like a man taking money out of his right-hand pocket and putting it in his left-hand pocket, because he owns the money in both pockets?"

Mr. Frank: This is an argument on the law; a legal conclusion.

"Q. Eliminating this quarter method that you have set up here, this question of quarters you set up, approximately will this amount

to six per cent upon one-half of the period of construction?"

"A. Approximately, yes sir. Something less than that. There are two ways of figuring that interest. One would be to take the m-an time, that is one and one-half years and apply nine per cent interest to the total money. The other thing to do is what I have done in this case, and apply the interest as the expenditures were made. The greater amount of money is spent in the latter portion of this three years, so that will result in a hittle lower interest charge than would be the case if the mean time were used. This seems to be the fairer way of applying it."

Redirect examination.

Questions by Mr. J. D. Frank:

We could install those telephones earlier than the eighth quarter, but it would not be desirable, in that the telephones would be installed in the business houses and residences and other places and they would not be in service and would be damaged. It would not be good economy to install those telephones along the first, second or third quarter, in that a considerable number of them would be installed where they would not be later used, people mov-

ing and business changing, and in addition to that we would have to be charging up interest on that work while it was lying idle. In estimating the time it would take to reconstruct this property I proceeded on the theory that I wanted to get the exchange to operating as soon as possible in order to begin to derive revenues from it.

This property could be reproduced in two and one-half years, but in my judgment it would cost more to reproduce it in that time than it would in the three year period, and also we would not get as good a job. In order to reproduce it within that short length of time, we would have to work men at night time, as well as day time, and when we work men at night, we have to pay them time and a half for overtime, and also we would have to ship in a considerable number of skilled men. We would have to have more men on the job than we would have if we did the work in the three year period, and that, of course, would entail considerable expense. We would have

to make special arrangements for lighting to work outside at night, and do many other similar things. In my best judgment an independent engineer or construction company could not come in and reproduce this in three years, and I doubt whether you could get a contractor or engineer to take the contract to reproduce this property in less than four to five years. Basing my judgment on my twenty-four or twenty-five years of telephone experience, I would say that three years was the least possible economical period of time which even the Southwestern Telegraph &

Telephone Company, with its organization, could reconstruct this plant.

Page 1 of my appraisal shows that the total reproduction cost of

the physical property is \$5,683,610.00.

Up to this point I have valued or appraised the physical property only, and in my appraisal of that physical property I have not included any increment because the property constituted and assembled and established plant doing business and earning money. I have not included anything other than the cost of the physical property.

The next item in my appraisal is item No. 9 of the first page of the appraisal, "Cost of Establishing Business", or "Going Value".

In what is known as the Houston Exchange in addition to the fair physical plant, the company also has property which is just as costly and just as valuable. We have the records of our property, of the accounts, we have out routines, we have specifications,

2688 we have our subscribers, thousands of contracts, and thousands of accounts have been opened, we, in addition, have an organization of some 665 skilled employees working harmoniously together and rendering service. In making my appraisal I consider that it would cost more to reproduce the Houston Exchange than the cost of the physical plant. I have estimated the cost of establishing business, or going value at \$992,881.00. I have an exhibit which shows how I arrived at that figure.

Mr. Duls: We'll introduce that, Your Honor, as an exhibit, Plaintiff's Exhibit No. 21.

(The document was thereupon received in evidence and marked Plaintiff's Exhibit No. 21, and said Plaintiff's Exhibit #21 is transmitted herewith in Exhibit File.)

The first six pages of this exhibit covers in a general way what would have to be done to establish the business. For convenience in determining the cost, the period of establishing the business has been divided into three parts, (1) the preliminary period, (2) the construction period, and (3) the development period. The preliminary period, the detail is shown on Page 1 of the exhibit, and the summary appears on page 7. I am now talking about "A" on page 7, and pages 8 and 9 represent the detail of "A". I arrived at an amount of \$12,280.00 as the total expenditures during the premimi-

On page 8 is shown the expenses during the nary period. preliminary period, the expenses first covering the preliminary investigation, and second, the legal expenses. On page

9 that is detailed.

In making this preliminary investigation I could not take any ordinary man off the street and set him to work on it, but I have estimated that it would require three experts, that is, three firstclass telephone men. Those men would have to be something more than telephone engineers, they would have to be high-class trained telephone men. I have arrived at \$7,280 as the cost of your preliminary investigation as made by those men and by their assistants.

I have another item under "A" detailed legal expense, and the detail of that is shown on page 10. I have estimated that the total legal expense would be \$5,000. That expense would be incurred by attorneys who would have to confer with the city authorities to obtain and draw up a franchise, to draw up and file a charter, and to furnish general legal advice in matters of organization and so forth. I would have a seven million dollar corporation to reproduce, and I have arraived at the attorney's fees of \$2,500.00. I arrived at that after conferring with our legal department, and we estimated that as being a conservative amount of money that that expense would cost. That includes expense of organizing the com-

pany, and obtaining the franchise and things of that sort. I arrived at the charter filing fees by a letter written to the Secretary of State at Austin asking what the charter filing fees would be for a six million dollar concern. The Secretary of State advised that a fee of \$2,500.00 would be made, and in addition to that about \$1,500.00 would be charged as a franchise tax. I have not included in this exhibit anywhere any other sum for obtaining

a franchise.

Now, the second period, the construction period. That is shown as item "B" on page 7 and covers the expense during the construction period, which includes building up the organization, attaching the business, maintenance and a reserve for replacement. pages from 11 to 20 inclusive show how I arrived at the figures for that period, and page 11 gives the summary. I arrived at a total of \$493,939.00 as the amount of expense that would have to be incurred during the construction period. In my judgment a man who was reproducing this exchange or a company that was reproducing this exchange, would have to make provisions for that sum. In other words it would be a part of the capital that he would have to provide in building the exchange. This all represents money which would be expended during this period in establishing the business.

I will now take up the different items that enter into this period and explain how I arrived at the cost for the different ele2691 ments. Item No. 1 on page No. 11 is the cost of getting subscribers. I mean to say by that that it costs money to get subscribers here in Houston. That is explained in some detail on page 12. The cost of getting the subscribers is made up of advertising, canvassing and expenses incident to the making of the contracts for the service. That has been estimated at \$4.00 per station, and that was based on records kept by the Commercial department of the company as to the cost of securing subscribers. That is based on actual cost record. I have arrived at a total sum for the cost of getting subscribers during that period of \$53,888.00, and the details of the cost of getting subscribers is shown on page 12.

The second item on construction period expense is "Building up of the organization". I allowed \$45,434.00 for that and the details are shown on page 13 of the exhibit. It costs a very considerable amount of money to build up an organization. If I were going to reproduce this property I would have to have an organization to operate it. We are actually spending money at the present time building up our organization. We are continually training operators and the cost of training operators averages \$65.00 each in Houston. To train operators we have to maintain instructors and schools and when a young lady is first employed, she couldn't of course be placed and trained at the switch-board. She couldn't answer calls, couldn't complete connections, and she has to be put through

the school and taught how to operate. By school I mean that we have a teacher there and other operators that show these young ladies how to operate and train them so that they will be efficient operators when they go on the board. We have a school principal. We have special rooms, we have dummy-switch-boards, we have instructors, and it cost money to train those people as part of our organization. It would cost money if I was going to reproduce this exchange, and we would have to have capital provided to take care of the expense of training those employees. The details are shown on page 13.

The next item of expense is item No. 3. "The development of Records, Routines, etc." I mean to say that we would have to have records and routines if we were reproducing this exchange, we would have to have a considerable number. I have a few such records and routines here. These that I show you are the plant's instructions, they are routines and instructions. I also have an exhibit listing those records and routines. These records and routines are essential in the operation of a telephone exchange, we could not carry on an exchange without such records and routines. The details of how I arrive at the cost of reproducing these records are shown on page 14 of the exhibit.

Mr. Duls: Before we go into that the details of that, I want to introduce, Your Honor, as Plaintiff's exhibit No. 22. This is an exhibit which lists the routines and instruction. Some of them,

I understand, would be necessary in operating an exchange.

We introduce that as Exhibit #22. And this lists the records which are essential to the operation of the exchange and we offer that as exhibit #23.

(Thereupon said exhibits were received in evidence, and marked Plaintiff's exhibit #22, and Plaintiff's exhibit #23, and said plaintiff's exhibit #22 and #23 are transmitted herewith in Exhibit File.)

I have estimated that the cost of reproducing those records and routines is \$9,500.00. Some of the details of which are shown on That estimated cost of reproducing those records and routines, we considered because pf printing, the cost of distribution, the cost of making forms, etc. As a matter of fact, to originate all of those records, bulletins, etc. would probably cost fifty to seventy-five thousand dollars. In my allowance for this titem, developing records and receipts, I have allowed an amount which will take care of the printing and distribution of the records and routines, on the basis that the Southwestern Telephone Company were reproducing this property, and that they had already done all of the preliminary work, all of the work necessary to originate all of these records and routines. In other words I have not included any amount for the origination and inception of the records and routines. Those records and routines were in part originated by the American Telephone & Telegraph Company, and in part by the Southwestern Telephone Company. There are general records and routines

2694 which are applicable for all telephone companies. There are others which are prepared and used only by certain companies. That is a part of the service which we receive under this four and one-half per cent payment. If I were reproducing this

exchange I would have to have these routines and records.

The next item of expense during the construction period is No. 4. the first directory cost. We would have to have a directory to operate an exchange the size of the Houston Exchange, and I have allowed \$3,000 for that. The details of that are shown on page 15. I conferred with our directory department, and they gave me the figure of \$3,000 as being a most conservative estimate of what the cost of issuing the first directory would be. I have allowed that directory expense in the twelfth quarter because the directory would not be required until that time. I have divided this up into twelve quarters just as I did in taking the three years construction period, and estimated the interest during construction.

The next item is No. 5, general supervision, and that is explained on page No. 16 of the exhibit. The total amount that I arrived at for that expenditure was \$11,131,000. This item is an item of capital expenditure that the company reproducing this exchange would have to incur aside from any cost connected with the physi-

cal property, and that has been so explained on page 16 of the exhibit. I have said that on maintenance this expense has already been included in connection with the other items.

There is no duplication of this general expense.

The next item is No. 6, "Plant Maintenance". The details of that are shown on page 17. I have allowed as the total amount for maintenance \$68,370.00. I might explain that maintenance on a telephone plant would start at the time the various classes of plants were installed. The maintenance would not be as high on a plant not in operation as it would be on one that was in operation, and in arriving at this maintenance cost, the fact that this plant would not be in operation has been considered, and the maintenance cost reduced accordingly. That amount is a capital expenditure that would have to be met during the construction period. The property would not be operating or it would not be earning.

The next item of expense during the construction period is item No. 7 "Reserve for Replacements." The total amount allowed for that item is \$283,119.00, and the details are shown on pages 19 to 20. The reserve for replacement has to start as the various classes of plant are completed in like manner as does the maintenance. Item No. 8 is the amount of interest which has been applied. That totals \$20,007.00. The interest has been figured at six per cent per

annum, based on the quarterly expenditures. There is no duplication in that. The interest that I allowed in the previous case was on the construction of the physical property, on the money expended in the construction of the physical property. This is money expended in the establishment of the business, so there is no duplication here in having another amount

of six per cent during the construction period. To sum up I have found \$493,939.00 as the total amount that would have to be expended during the construction period in establishing the business,

that being item "B" on page 7 of the summary sheet.

The third period is period "C," on page 7 of the exhibit, the "Operating Deficits during the Construction Period." That total amount of deficits is \$486,662.00. It has been found that in the establishing of telephone businesses that the normal number of telephone subscribers are not secured for a period of some two to three years after the business was then established. That has been the experience of everybody who has been engaged in the telephone business who has had to do with the establishing of telephone businesses. I have taken the two-year period as being the period required to get the normal number of subscribers which we could expect in this exchange after the end of the construction period. Those subscribers would come in 75 per cent of the total in the first year, and 25 per cent in the second year, so that, I estimate that at the end of the second year of this development period after I had begun operation that I would have a total number of subscribers of the exchange. The

details of my figures are shown on the remaining pages of the
2697 exhibit beginning with page 22. Page 22 shows in detail the
operating deficits during the two year development period.

I mean by "Deficit," I mean by that "Operating deficit." The

deficit is that amount of money, is the difference in the amount of money between the revenues earned by the exchange and the expense plus a return on the investment. During the development

period, the expenses exceed the revenue.

I have used an eight per cent return because that is considered as the minimum return which should be earned by a business of this kind. I took eight per cent because it is the least amount that should be earned in an enterprise of the kind, the Telephone Company is. That represents my best judgment as to what this business should earn.

On page 37 of the exhibit I should like to read: "We are seeking to determine the deficits during development period which would be incurred in reproducing the Houston Exchange. The deficits are computed as the amounts per quarter by which the Exchange during the two year development period falls short of earning at the rate of eight per cent.

"If in our calculation of gross revenue for the several quarters during this development period we take as a basis \$795,937, the actual revenue of the Houston Exchange for the first three quarters of 1919,

it would produce abnormal development deficits, for those 2698 revenues are abnormally low, being derived from rates which with a full number of subscribers would not pay the bare

expenses of the Exchange.

"We can work out the normal development losses to be expected in reproducing such an exchange by assuming more normal rates, or a gross revenue which is such that with the full number of subscribers it would amount to eight per cent on the property after the

expenses were paid."

In other words we haven't used the actual revenue which obtained during this period in 1919. If we had used that actual revenue, the deficits during this development period would be considerably in excess of those which we have developed. We have assumed that this exchange would make an earning that is, that the rates would be such, so that at the end of the development period at which time the exchange would have the full or normal number of subscribers, that then the revenues would be sufficient to pay all of the expenses, and an eight per cent return on the investment.

These pages in this exhibit, detailed sheets, show the method and also the figures according to which I arrived at my total cost for the cost of establishing the business or "Going Concern Value." Then

they can be checked by an auditor or engineer. To sum it all up then, in my judgment it would cost to re-establish the business, on top of the cost of reproducing the physical plant the sum of \$992,881.00.

Cross-examination.

Questions by Mr. Howard:

The cost of establishing this business is \$992,881.00. This estimate was rather carefully worked out and was not applied on a percentage basis, but the details were carefully worked out. The

details with reference to attaching the business are shown on page 11, the summary of expense during the construction period of three years. No, I do not start out with the theory of reproducing a new plant, and then figure the cost of attaching business a good deal as if the plant is in the course of construction a great many years, but this estimate is an estimate of the cost of establishing the business in like manner as the estimate of the cost of building the plant. It is not a fact that we make prompt telephone connections now, but on the contrary I think in the residence section, in general, some connections are not being made on account of the congested condition of the plant. I mean by congested condition that there is a lack of facilities. During the period of the war as you know, comparatively little construction work was done, but during that same period a considerable growth was experienced, and the spare plant which we

ordinarily have, that is, the extra facilities which permit us to take care of connection promptly, a great portion of those extra facilities were exhausted. I have no idea now how many applications for telephone installation we have on file, but I imagine we have a great number. I don't know whether many of them have been there for more than a year, I rather doubt that there are any that old, excepting possibly some in the outlying sections where it is a question of building a new pole line, or something of that kind.

"Q. The only conclusion to be drawn from that, that instead of having any cost of acquiring business, you have the cost of keeping away from business"?

"A. You are trying to connect up with this estimate of the cost of establishing business, the business as it exists, Mr. Howard."

"Q. I am speaking now of the particular item of attaching the business, not of the cost you have incurred in developing the business up to this point. Not the proposition that you may run into difficulties in bringing your present plant up to condition, but of the specific thing of attaching or acquiring your subscribers, getting the business."

"A. In connection with this present plant, or new plant?"

"Q. In connection with a plant that is all ready established and ready to go. That kind of plant would be swamped with business, wouldn't it? Assuming thay you had no plant, but 2701 just built your plant now, and it is all nice and brand new

and ready to go with the present intelligence of the people in regard to telephones, and the knowledge of the use of them, you would just simply practically have to close your office and hide out to keep from being over-run by subscribers?"

"A. No sir, what would happen is this-

"Q. (Interrupting.) Your manager now avoids all calls in order to keep away from the insistence of the people wanting telephones?"

"A. You are dealing with the present plant."

"Q. What would be the difference between the present plant and the plant—if this plant burned down or was wrecked in some way, and the telephone service in this town was put out of commission a year or two until a new plant could be built, your biggest trouble would be the pacifying of the clamor for telephones, wouldn't it?"

"A. What would happen is this: A very considerable amount of people, a considerable number of people would come to our telephone office and apply for telephone service. Those would be the business people who had the greatest need for the service. The first people who would come would probably be the people who had private branch exchanges. To handle those people in the office, it would be necessary to write up the contracts—

"Q. (Interrupting.) I am assuming now---

2702 Mr. D. A. Frank: Let him answer the question. I don't think it fair to break the witness off in his answer.

"A. It would be necessary to establish the accounts; it would be necessary to issue the contracts covering the providing of the service, the type of the service and so forth, and it would be necessary to have experienced men who know, who could determine what those people needed in the way of telephone facilities to render them the service which they required. In connection with private branch exchange installation there are many things that have to be determined. All of those things I have estimated would only cost \$4.00 per subscriber, including in addition to the things I have mentioned, advertising. A certain amount of advertising is always necessary."

"Q. Of course, but in the condition of a reproduced plant—assuming this plant had been destroyed and telephone service had been suspended, the only advertising necessary would be to let the people know the plant is open for business, then they would come swarming, not only the private exchanges, and business houses, but residences all over the city, there would be a general scamper to see who could get their telephone installed first, and the principal trouble would be to receive those applications in an orderly way, and give the service and install the telephones in such way as to keep the

people pacified.

2073 "A. To a considerable number of people telephone service is a necessary thing; to a considerable other number of people

it is more or less a luxury."

Possibly it is like automobiles, people clamoring for them whether they can afford them or not. There is no question that the attaching of that business costs money, and I have estimated a very nominal cost per subscriber of four dollars. In this method I have reproduced a new plant, physically, in a condition where it is ready to serve. In the same condition as our plant is now serving the public, excepting for the installation of telephones. It was estimated that at the end of the construction period we would have signed up contracts, established records and so forth the total number of subscribers, and then the two years following we would sign up and connect the other half, 75 per cent of that other half to be connected during the first of the two years, and 25 per cent during the second year. We would need the clerks to receive the applications and sign up the blank contracts and enter the names on the books

and would need these special men to determine the proper kind of telephone facilities to provide. I have set up on this particular item \$53,388, based on \$4.00 per station. That comes under heading "B" on page 7, expense during the construction period and includes building of the organization, attaching the business, maintenance

and reserve for replacements. That is just during the construction period, and the plant is not in use-not in operation at all. The only replacement that would be necessary would be just such as would come from a year or two's age and the maintenance as I have previously explained would be less than for a plant in operation, and it has been figured less. For the cost of getting up that organization to handle the business, and for attaching the business, although the people would be anxious and clamoring for the service, maintaining the property during that period while it is being completed, would amount to \$493,939.00. I consider that that is a very conservative estimate. Most engineers use a flat percentage figure of 20 per cent. I did not use that 20 per cent because this is a fairer way, a better way of working it out, in that we built

Q. The next item,—you have been so modest in that \$12,280 item that I will not ask you about that. I don't know what it is for, but will assume it is in there. Under "C" what do you mean by that? You build a new plant, you haven't any particular development period, you have a plant all built, and have it built upon the prices for reconstruction new. Are you assuming now that you

are going to lose business?"

it up in detail.

"A. The detail of the operating deficits during the two year development period is shown on page 22. That is the period following the three year construction period. I just told you that we have estimated that at the end of the construction period, at the time we

opened the exchange, we would start off with a half of our total number of subscribers, and then it would take 2705 us two years following that to get the full number of sub-

That is based on considerable experience in opening exchanges all over the country. Men who have had to do with that work estimate two to three to four years to get the normal number of subscribers. On page 22 is shown the way in which those opera-ting deficits build up. The first three months of that two year period the revenue is not sufficient to pay the expenses and pay a return on the investment, and therefore a deficit is created.'

"Q. Why do you assume that when you will have all the business that you can do? That is based largely upon the idea that the people have to undergo an initial period of construction and education and soliciting, --educating the people up to the point of the value of the service, isn't it?"

"A. No sir, it is based upon actual experience in the establishing

of a telephone plant."

"Q. That is already existing. We are reproducing a plant that is already to start off, and in a community where the people have been educated up to the value of telephones, to the point where they are clamoring for them, and abusing the telephone company because it don't give them service, and all that sort of thing. Why then will there be any falling off in returns, or a deficit in returns either when you have the business already attached?"

2706 "A. I talked to Mr. R. B. Still, the General Manager of the Gulf States Telephone Company, who has opened telephone exchanges in the last two, three and fours years. I also talked to Mr. Blomeyer, of the Texas Telephone Company at Waco—

Mr. D. A. Frank: What position does he occupy with reference to the Texas Telephone Company?

He is the President of that Telephone Company, and I have talked to other men who have had experience in recent years, recent time, in opening telephone exchanges, and that is their experience

even though people do know what telephone service means,

That is not where there was a competing line, but of course it was in a smaller town than Houston. It was not in small towns where people have never been accustomed to telephones. Their experience covers two different things. One, the establishing of a brand new exchange, telephone exchange, and second, the purchasing of existing telephone exchanges and developing those exchanges and that is their best judgment. Other men have given me the same information. Their experience was not in towns where telephone service had not been employed before. I just stated that their experience embraced two different things, one, the establishment of new exchanges, and two, the acquiring of exchanges and rebuilding them and then developing them. They bought the plant and rehabilitated it and developed it, so it

2707 covered both things, and they were very earnest in their statement that it requires in excess of two years, would be nearer three or four years, before they ever got their exchange on a paying basis. We have telephone exchanges all ever the country, to the farms and small towns. In some places the farmers through the better developed sections of the country stick up their own poles and string lines and get telephone service for about \$12.00 a year, and in some places for \$6.00 a year. The only difference I can see there and in the cities where the people have to communicate with each other so much is in the size and amount of business. The need for the service is still there. I cannot agree to the fact that the people haven't learned the value of it as they have in the city, I think they have learned the value of telephone service.

"Q. Mr. Hoag, in your set up of the cost of establishing business, is there any of these sub-heads you have here that will in any way apply to losses sustained by obsolescence or inadequacy? That would hardly apply in a new plant, would it, under the theory which you have reproduced this plant, you wouldn't have any losses

from obsolescence or inadequacy to speak off?"

"A. We would meet with the usual losses which are cared for by

our reserve for replacements."

Obsolescense and inadequacy does apply with as much force to telephone companies as it does to other utilities.

Our best judgment is that only 35 per cent of the plant of a telephone plant which is displaced, which is removed, is removed on account of its being worn out, and that 65 per cent is removed on account of inadequacy, obsolescence and public requirements, and that is a very conservative estimate. I mean to say that in building up this plant I would probably have to remove 65 per cent of the material and equipment at different times on account of its being worn out and 65 per cent of it removed on account of inadequacy, obsolescence and public requirements. I mean 65 per cent of what has been removed has been removed on account of obsolescence and inadequacy. When we once get our conduit lines placed we still have trouble about having to take them up, or change For instance: In connection with the construction of your Main street viaduct here over Buffalo Bayou, as I recall the figures, we were put to an expense of some thirty thousand dollars and had a charge against our reserve for replacement of something less than twenty-thousand dollars-the details will appear later-due to the fact that we have to abandon certain conduit runs and underground That is an example of public requirements. I would not say that our conduits that we have here now are not a permanent proposition, I wouldn't say that for the conduit system as a whole, but there are many parts of it in the city that will have to be

changed. We figure an annual rate of reserve on underground conduit lines of two per cent. That contemplates a fifty year life. We can figure out in advance where out main cables have to run and where our main lines have to run as a community grows, but necessarily that engineering cannot always be accurate, there are bound to be some mistakes in a growing community like Houston. A small example of what happened in connection with conduit lines: We built a lines out Fannin Street a good many years ago to McGowen Avenue, and at that time south of McGowen there was only a very limited amount of business, that portion of the city had not developed at that time. Since that time you know what the development has been. At the corner of Fannin and McGowen we built a small man-hole, and from that man-hole took out our small cables, ran them up the pole and extended them on out by means of aerial cable and open wires. We later had to come along and extend that conduit from McGowen and Fannin 'way out into the Montrose Addition, and into other portions of that third ward, and had to place heavy runs of underground cables out there. That made necessary the reconstruction of that man-hole at the corner of McGowen and Fannin. Our construction out to that point was adequate and sufficient to take care of any future development, the main line was, yes, sir, but this particular man-hole had to be all torn out and thrown away, and a large junction man-hole constructed to care for the heavy run of cable which had to be placed on account of this growth. That is an example of inadequacy in connection

2710 with conduit construction. The main line conduit is in Fannin Street and is being used and will be used for years, and we hope it will serve. We hope we will not have to move it.

We figured it would last fifty years in this rate of reserve we have established here, two per cent. We may have to add to it, but that would simply be additional conduit, but we don't figure it will wear out. So far as it goes it is adequate, it is so adequate that it may be built on to from time to time. I don't mean by "conduits" the trenches, but I mean the conduit itself, the man-holes, the vitrified clay ducts, and that portion of it, the things that permit the cables to run through. On the underground cables we figure the rate of reserve is three per cent, that is a thirty-three year They are not as permanent as the underground conduit on account of their being subject to damage. They are also subject to inadequacy. Underground cables are replaced on account of inadequacy very frequently. We have for example: The business section of Houston is constantly developing and enlarging. I have seen it enlarge from a comparatively few blocks to a very large area which now exists, and as the town continues to grow, that is going to continue to enlarge. From the main line cable on Main Street—when the business section did not extend west of Travis Street—we placed a 100-pair cable to serve that section west from Main Street to Travis Street. Then as the business

district grew, as it enlarged, we had to replace that 100pair cable with a 200 or maybe a 400-pair cable, and later we had to replace it with a 600 or 900-pair. That is a good example of inadequacy in the case of underground cables. We have put in cables now that are as large as susceptible of being put inwhere the amount of business justifies it. We of course cannot place a 900-pair cable, which is quite expensive, to serve forty or fifty subscribers, without we are very sure we are going to get such a growth in such a length of time as to justify the expenditure for the 900-pair cable. It never happens that in the growth of the community as a whole that we are required to change our conduit system as a whole, abandon one line because it didn't serve and construct a conduit in another portion that was built up, but we do have to abandon parts of the conduit lines. We do have to do that, and that means a considerable charge against our reserve for replacements. The example that I mentioned a while ago in connection with this viaduet work. I think of another one in connection with building construction when the conduit is laid close to the curb. When a large office building is constructed they invariably use the space under the sidewalk as a part of their basement space. Those things are occur-ing every day, every week, every month, and will of coursse, continue to occur as the town grows, making the conduits as located, subject to change,

2712 In other words, our foresight wasn't as good as it would have been if we had known just how the town would develop. If we knew positively what was going to happen as to the growth of the town, these conduit lines could be built much more permanently and there would be fewer changes. Not knowing that, the conduit lines are to some extent, at least, misplaced. And in connection with changes in street grades, we have to lower manholes.

The question of obsolescence of switch-boards is also dealt with in some detail here, and can be better shown if you care to wait until then. Inadequacy and obsolescence in switch-boards are two very different things. The switch-boards become obsolete when it is replaced, when a new invention, research work, develops a switch-board when renders more efficient service. That has occurred here in Houston of fairly late years. I might tell you what is happening in Dallas today. In the Dallas main exchange today we are displacing our manual equipment, manual common battery equipment, which is the same kind you have here in Houston, with automatic. That is in the Main Exchange and by the last part of the year we will also be doing the same thing in the Haskell Exchange district. In those two districts combined are some twenty-two or twenty-four thousand telephones in the city of Dallas. It is possible that we will have to replace our manual common battery equipment in this

Houston Preston Exchange. As a matter of fact we have it scheduled simply to protect ourselves in case we have to have the automatic equipment. There is such a demand for that that you have to schedule your needs considerably in advance. We do not contemplate changing it at this time, but we may have to replace it in three, five or seven years, or even less time. necessitates the displacing of this entire switch-board, and it means a charge against the reserve fund for replacements in excess of five hundred thousand dollars, and means expenditure for new plant in excess of a million and a quarter dollars to do that one thing. would tend to cut down the operating expense, but the initial cost of the automatic is considerably greater than the manual common battery system, and also the cost of maintenance is greater in that it is much more complicated that the common battery system. there would, of course, be a salvage value on this equipment which That salvage value might equal 20 or 25 per cent of the initial cost of that equipment, so that the loss would be 75 per cent approximately of the initial cost of that equipment. That would necessitate some reconstruction or remodeling of the building, because the building as now constructed is sufficient to care for the manual common battery. There is not, however, in the building sufficient space to care for the automatic equipment in addition to the equipment which is already there. Neither is the building

arranged, as it would have to be arranged to care for the automatic in that it was built some seven or eight years ago before the automatic had been given serious consideration. The automatic service is being given serious consideration. We are installing it in Dallas, and it is being in many other places. We would have to remodel this building which would mean a charge against the reserve for replacements, and we would have to add to it to install the automatic. It would not be just a minor change, but it would mean tearing out practically all of the west side of that building for several floors and adding to it, and remodeling the interior of the building, providing space for frames and things of that sort. That would effect the discribution system to this extent: That to connect the distribution system to the automatic new frames

would have to be installed in connection with the automatic equipment. New underground conduit construction would have to be placed, and a very expensive job would have to be done of underground cable work connecting these cables to the existing underground cables at the corner and carrying them on up to these frames which would be installed in connection with the automatic equipment. That in itself would probably cost \$50,000.00. It would not affect our aerial distribution system at all.

There are things which do affect the aerial distribution system. There are more things that affect the aerial portion of the distribu-

tion system than any other portion of the plant, with the possible exception of substation apparatus. Many things Inadequacy, that is, the growth of the city, cause that. public requirements. Inadequacy is the biggest thing. to the elements. Police regulations do not have anything to do with it, but the individual regulations to which we are subject by the residents have a great deal to do with that. Treating the fire limit as a police regulation: In 1907, I think it was when Mayor Rice was here in Houston, an ordinance was passed, possibly it was passed in connection with the franchise, requiring us to remove a very considerable amount of aerial construction in the down-town portion. In fact, it required us to remove all aerial construction within these established fire limits. You are wrong, that is not a thing of the past. As the town grows necessarily the fire limits extend and necessarily we will be called upon to remove our aerial construction in like manner as people who construct buildings in the fire limits will be called upon to set up fire proof buildings.

This matter I spoke of, having to change the building to install automatic equipment, would also apply to the lesser exchanges, like the Hadley and Taylor exchanges, but it wouldn't apply immediately. It would probably develop in like manner as we expect to develop the automatic service in Dallas. It would affect the switch-boards on those exchanges, in that extensive automatic 2716 equipment would have to be installed, and those switch-

boards would have to be remodeled to take care of the interconnecting between the manual common battery switch-board and the automatic switch-board.

Redirect examination.

Questions by Mr. Duls:

In making my estimate of what it would cost to establish the business I have attempted to arrive at the value of the plant, other than the physical plant. That is ordinarily called the Going Concern Value. I have made an estimate of what it would cost to establish the business in order to find that going concern value in like manner as I made an estimate of the cost of reproduction of the physical plant, physical property, in an effort to determine the value of that portion of the plant. The cost of establishing business includes a great many other items besides the cost of getting subscribers and

that is shown on this exhibit on the cost of establishing business. So that, when counsel questions me about the cost of establishing business in terms of the cost of getting subscribers, he left out of consideration a great many other items that enter into the cost of establishing the business, he leaves out the major portion of it.

Mr. Duls: Turn to page 11 and name some of the other items that enter into the cost of establishing business, or going con-

Mr. Howard: He testified to all that the other day.

Mr. Duls: He didn't mention them. He testified to some of them. I just want you to learn the other items besides the cost of getting the subscribers that enter into this thing.

Item 2 is building up organization, Item 3, developing records, routines and so forth. Item 4 is the first directory cost, Item 6 is plant maintenance. Item 7 is reserve for replacements. And on page 22 are the deficits during the two year development period, which constitutes the major portion of the cost. Those are some of the items other than the cost of getting subscribers, that enter into

his thing.

In estimating what it would cost to get subscribers I have made allowance for the fact that some subscribers would come in voluntarily, and have assumed that most of the business people would come to our office and apply for service, and a considerable number of people who desire service in their residences would do likewise. I made an allowance for that in arriving at my cost. It is a fact that today, with people clamoring for telephone service that we are doing advertising in Houston. If I were going to reproduce a new plant here I would have to do advertising. The cost I arrived

at of getting subscribers, the estimated cost, is based on actual cost records. That is, the records of the company show what it cost on an average to get subscribers and that is the cost I used. The records of the commercial department of the company show that cost and that is what has been used. Subscribers have been coming in voluntarily all the time, some subscribers, and still it costs money

to get subscribers.

In arriving at the deficits during the development period I did not use the existing rates. I instead used rates which at the end of the development period, that is, at the time when we had the full or normal number of subscribers, that would produce a revenue sufficient to care for all of the expenses and a return of eight per cent on the investment. If I had used the present rates for service,

the deficits would have been very considerably larger.

Page 4 of my appraisal shows the taxes during the construction period. When this matter was taken up a few days ago, the question came up as to whether or not I gad correctly figured that item out of taxes during the construction period. I have gone over that matter again, have checked that and find that my figures were correct, and that I did not make an error as at first thought I had. Therefore, the set up as shown on page 4 is correct. The usual

method of figuring taxes during construction is to figure the taxes on a mean time basis. That is, if the construction period is three years, then, after determining the amount of taxes to be paid, the total amount of taxes to be paid per year, that amount would be applied for one and one-half years on the assumption that the money expended would be expended for that average meantime of one and one-half years. I didn't consider that quite the fair way to work up the taxes during the construction period, and have therefore built it up on the basis of the expenditures as made during the quarterly periods for the three years. That resulted in the total taxes during the construction period of \$101,720. If those taxes had been figured on a mean time basis it would have resulted in the taxes totaling \$109,856, or \$8,136 more than the amount as used. The time at which the taxes are paid does not in any way affect the amount of money which should be capitalized in that these taxes are paid and form a part of the expenses of the construction of the plant. That is a part of the expenses which are incurred during the construction period. Even though the actual amount of taxes were paid one year or two years after the plant began operation, nevertheless there is an expense which was incurred during the construction period and is therefore a proper capital charge.

Cross-examination.

Questions by Mr. Howard:

2720 "Q. Mr. Hoag, let me see now: Did you figure that you paid any taxes on this 1, 2, 3 and 4 during that year?"

"A. The point I just made was that it doesn't make any difference when these taxes were paid, whether they are paid one year after this plant is constructed, or six months afterwards."

"Q. My question is whether you have to pay any taxes at all

for the first year, except on the real estate?"

"A. If I may explain that in detail I will say this: October 1st, 1919, was the date of the inventory and the appraisal, and therefore that was taken as the date of the beginning of this construction period. In the first quarter, which would be the period from October 1st to December 31st, 1919, as this shows, we would have purchased the real estate; therefore, we would have to pay the \$401 taxes, as shown on January 1st, 1920."

"Q. Did you advise yourself concerning the Texas law in regard

to taxes?"

Mr. Frank: He doesn't mean pay it; he means become liable to pay it.

"Q. If you purchase real estate in January, don't you know as a matter of fact you wouldn't have to pay taxes on it at all for the year 1919?"

"A. We would have purchased this real estate between October 1st and December 31st. That is, about the middle of the period, previous to January 1st."

"Q. And don't you know that you wouldn't have to pay any taxes at all for 1919?"

"A. The point I made a while ago is, it don't make any difference

when these taxes are paid."

"Q. It makes a difference whether you have to pay them at all?"
"A. We do have to pay them."

"Q. I am asking you if you familiarized yourself with the Texas

laws upon taxation?"

"A. It has been my experience in purchasing land for this company, and for myself, that when you purchase land as of October, or some other period in the year, that you assume the taxes for one-third of the year, or a half of the year, as the case may be."

"Q. I am asking you if you familiarized yourself with the Texas law upon the subject of taxation, and who is liable for taxes for

property."

Mr. D. A. Frank: It isn't a question of liability it is a question of practice, and what he states is the exact practice.

Mr. Howard: He hasn't purchased it in 1919; he is theorizing

about it.

Mr. D. A. Frank: What he has stated, that if you purchase land on the 1st of October, you have to assume a proportionate part of the taxes for the year. It is a question of agreement.

Mr. Howard: He is purchasing property and is supposed to get

a good title, and isn't assuming anything.

Mr. D. A. Frank: I passed personally on every contract from 1905 to 1914 on property in this town, and in one of those particular cases—right here at the Preston Exchange they assumed the taxes for the proportionate part of the year.

Mr. Howard: We are talking about the plant you are reproducing.

Mr. D. A. Frank: It is a matter of practice.

"Q. I am asking you if you familiarized yourself with the law and ascertained that the taxes for that year were assessed against the grantor, and not against the grantee? You didn't take that into consideration at all, as I understand you."

"A. I have not thoroughly familiarized myself with the law."

"Q. You have taken into consideration the fact that improvements placed upon the property after the first of January, are not assessed for taxation at all during that year?"

"A. I know positively that you pay taxes on property which

you own."

2723 Mr. Duls: On what date?

"Q. Did you ever build a house on a vacant lot?"

"A. Yes sir."

"Q. And did you discover when you came to pay your taxes at the end of that year, after they became due for that particular year, that you paid only upon the real estate, notwithstanding that you had put improvements on it after the first of January?"

"A. I don't recall just what I did."

"Q. If that is the law in this State, that you pay taxes only upon such improvements as are on the property on the first day of January of that year, your set-up would be an error to that extent, would it not? If you didn't have to pay the taxes at all?"

"A. I don't understand it would be an error, no sir."

"Q. Let's assume for illustration that you started to put up this plant in January, 1920, you are starting right now and putting up the first four quarters, during this year, beginning after the first of January of this year, don't you understand that you wou'dn't have to pay taxes at all upon those improvements for the year 1920."

A. No sir, I don't understand that." "Q. You don't understand that?"

"A. No sir."

"Q. If that is a fact, it would change your set-up of the 2724 taxes would it not?"

"A. No sir, not as I understand it, in that we have to pay

taxes on all of this property."

"Q. I am assuming you don't pay it for the improvements put on there during 1920. If that is the law, and you don't pay those taxes, that would make a difference in your set-up, because your set-up is based on the theory that you do pay taxes on those improvements for the year 1920."

"A. I have assumed that we do pay taxes on the expenditures as made in 1920, on the amount of property which has placed during

that period."

"Q. If, as a matter of fact, you don't, and the law doesn't require you to do it, your set-up would be in error as to the taxes, wouldn't it, your estimate as to the taxes?"

"A. I don't understand it that way."

"Q. It is a very simple thing. Take my assumption, whether right or wrong, suppose you put on those improvements, the \$235,000, \$170,000, \$376,000 and \$542,000, that you put that on the land after the first of January?"

"A. Yes sir."
"Q. You have made your set-up on the assumption that you have to pay those taxes?"

A. Some time."

"Q. Yes sir, sometime on that property."

"Q. If, as a matter of fact, you don't have to pay taxes on it at all for the year 1920, the year on which they are put on 2725 there, then your set-up would be erroneous to that extent.

I am not saying as you computed it that it is erroneous, but I am saying if you make that assumption, and you would not have to pay taxes on that equipment at all, then your statement would be bound to be erroneous."

"A. I would have to study that carefully before I could answer it."

"Q. It is very clear." "A. No sir, it isn't."

"Q. If you don't have to pay them, if you have included something that you think would have to be paid, and you find out you don't have to pay it, your estimate would be erroneous to that extent?"

"A. If these taxes don't have to be paid, this would be wrong."

Mr. Howard: That is all I want to ask you.

Redirect examination.

Questions by Mr. D. A. Frank:

In the course of three years in constructing a plant, began in 1920, we would certainly begin to pay taxes in 1921, and property erected during 1921 would bear taxes as of the date of January 1st 1922. So, that the only difference my set up, would be, instead of being divided up into quarters, it would be annual instead

2726 of quarterly, and what I have done here is to allocate it to quarters in an effort to build this up on a fairer basis than by taking the mean time, and is actually less than it would be if we were constructing the plant new. And in addition to that the whole plant that we have assumed here is the taxes paid on the present assessment, which is considerably less than the real value of the property. In other words I have merely applied the figure that is based on the present assessment and payment of taxes, instead of what it might be if I were constructing a brand new plant.

Cross-examination.

Questions by Mr. Howard:

I assume that I started to build this plant in October 1919, and there are no improvements on the land in the first quarter. The first expenditures for building is made in the third quarter which would be between March 1st and June 30th 1920. That \$235,519.00 represent the amount of money which was spent in the purchase of the land, and the next figure \$117,559.00 represents the average amount of money. In other words, to be strictly fair, we have not assumed this \$235,000 would be spent as of October 1st, but we have instead assumed that it would be spent about the middle of the period. We spent that money for the land, That is, we bought the land with the \$235,519.00. I have figured the taxes on the land of the period of the period

land from the very day we acquired it and it is \$401.00.

The next item \$170,377 is the average amount of physical plant in place.

On page 2 is the set-up that shows how I have added my improvements during this time, and also on page 3. The land is being shown as purchased in the first quarter, that is the first item. Then the building—although the building construction would start during the second quarter and probably even during the first quarter, still the first payment to the contractor would be made in the first quarter of \$104,138.

Redirect examination.

Questions by Mr. J. D. Frank:

Page 1 of my appraisal shows the total reproduction cost of the

physical property \$5,683,610.

The next thing appearing below that is expressed in this language: "Present or per cent condition of Physical Property, 92.91 per cent." I tried to determine the present condition of the physical property, because the estimated reproduction cost is based on reproducing the plant new, and to determine the present value it was necessary to determine the present condition of the property. That is to determine the accrued depreciation and to deduct that

accrued depreciation from the total reproduction cost of the property now. I found the property to be in 92.91 per cent condition. I determined the present condition of the property by a careful physical inspection of it. I made a general inspection of all of the distributing system. In the case of pole lines, I saw practically all of the poles in the exchange. Where the pole lines were obviously in the first class condition I made a detailed inspection of every twentieth or twenty-fifth or thirtieth pole; where the poles did not appear to be in such good condition I made a careful inspection of a large number by digging around the poles at the butts, determining the amount of decay, and whether or not the poles had a hollow heart. In the case faerial cables, and aerial cable accessories, such as suspension str. ds, bolts and so forth, I made a careful inspection of that portion. I inspected a considerable amount of sub-station equipment, and installations in the business district. I only inspected a limited amount, in fact, only a few of the telephones in the residence sections in that it was difficult to get into houses for that purpose. I covered the buildings by starting at the roof and going through to the basement, paying particular attention to the buildings as a whole, and also to the parts of the buildings that wear, like windows, doors, floors, elevators, heating plants, lavatories and so forth. I have been over a good many hundred telephone exchanges, large and small, and this property is in as good condition as any exchange I have ever been over,

and is better than 90 per cent of the telephone exchanges. With reference to some of the factors which tend to keep telephone property in high-class condition, the fundamental thing is the initial construction of such a property. The best materials procurable for telephone properties has been used, good engineering has been done, and first class workmanship has been used in the construction of this property. That means that a plant so constructed will remain in a perfect condition generally than a poorly constructed plant. The maintenance of the plant, that is, the day to day repairs and up-keep has a considerable bearing on the condition of a plant. This property is highly maintained. A well trained and efficient organization is constantly employed in keeping up this property and the parts of the plant have not been permitted to wear

and deteriorate, but instead have been repaired from day to day and have been kept in a first class working order. The replacements of the plant from time to time have a considerable effect upon its condition.

I haven't the replacements and enlargements separated, but the replacements and enlargements combined, that is, the net addition to the plant for the last nine years total over \$2,551,000. That is for the last nine years. For the last five years the net additions have been one willion two hundred seventy-seven thousand

have been one willon two hundred seventy-seven thousand dollars. That is the cost of these net additions, enlargements

and replacements.

The gross additions for the last nine years total \$4,252,736.00 for the nine year period. That much new construction has been put into this plant during the last nine years. Since 1914 it has been \$2,325,372.00. A considerable amount of replacements are replacements before the plant has lived its useful life, and that applies particularly to the aerial portion of the plant. Take poles, for instance only a very small percentage of the total are permitted to live their useful life.

All these matters mentioned by me tend to keep the per cent condition of the property high. There is one other matter which has not been mentioned, and that is the growth. In a growing plant, like Houston, the growth, of course requires large quantities of 100 per cent new material to be placed. And as long as the growth continues rapid, you will find as much new construction in a plant of this kind as you will old construction. This is shown more in detail in my appraisal on page 9. Also, certain details in connection with it are shown on page 8.

On page 8 is shown the reproduction cost of each class of plant, in the first column it shows the cost not including overhead expenses.

In the second column is the reproduction cost including over-2731 head expenses of each class of plant, and the third column is the per cent or total reproduction cost in each class of plant. For example the land represents 4.58 per cent of the total of the reproduction cost. The Central office equipment represents 24.64

per cent of the total reproduction cost.

On page 9 the first column shows the per cent of total reproduction cost in the class of plant as built up on page 8. The second column shows percent condition of each class of plant, and the third column shows weighted present condition. The first item of land which represents 4.58 per cent of the total reproduction cost of the property, is in 100 per cent condition, in that land does not deteriorate, and the weighted present condition of the land is 4.58 per cent. The land does not depreciate, but I have included it in this consideration of the present condition of the physical property because it is a part of the physical property, and what I am trying to do is to determine the present condition of the physical property as a whole.

Mr. Howard: What do you mean by "Weighted Present Con-

dition?"

Mr. Hoag: That means this: Take for example the pole plant,

which represent 7.86 per cent of the total reproduction cost of the property. The pole plant has depreciated 13 per cent in that it was found in 87 per cent condition. You can work that out by deducting from your 7.86 per cent 1021, which will give you

the Weighted Present condition.

Mr. D. A. Frank: You will get the same result by taking 87 per cent of 7.86.

Mr. Hoag: Yes sir. In other words, multiplying the first column

by the second column and you get the third column.

The stable and garage equipment, the last item on the sheet, was found in 75 per cent condition, it having depreciated 25 per cent.

There is an item of right of way there. That depreciates. That item depreciates 100 per cent at the time, at the moment the right of way is abandoned. When a right of way is obtained, it is charged on the books under the Right of Way account at whatever it costs and at any time the right of way is abandoned we have to charge it off the books, and the only way it could be charged off would be to clear it through reserve for replacements. For example: We have a right of way across the G. H. & S. A. Railway yards on Montgomery, which cost several hundred dollars. If we should re-route our construction and carry it along some other street, then at the time that right of way was abandoned we would have to charge

to reserve for replacements whatever that right of way cost us originally. As long as we have the right of way it is in 100 per cent condition, but the moment we lose the right of

way it deteriorates down to zero, goes from 100 per cent down to zero and becomes a loss altogether.

Cross-examination.

Questions by Mr. Howard:

We still have the right of way, and it is in 100 per cent condition, and it is so shown here. A physical inspection is the only possible way of determining the condition of the plant, It is not possible by inspection, to observe all the different parts of the plant, such as underground conduits between man-holes, that is, sub-surface construction and only the end of the conduit can be seen. You can make a fairly thorough examination of installed machinery, but there are parts you cannot see.

The average life of a plant, telephone plant, as a whole, is around fifteen years. That is the average life of this particular plant as a whole understand. That does not apply to any particular part of it. Some parts might have a life of two years and some twenty years. I could not answer the actual life of the plant as a whole, except as I have done, that we figure an average life is about fifteen years

for such a plant as a whole. I think my answer is about right, that the life of this particular plant as a whole is about fifteen years. I don't know that there is any money set aside for amortizing the plant. For reserve for replacements we have estimated 6.334, that is 6.33 per cent. The reserve for replacements—that fund is charged with such replacements as are made.

either for inadequacy, obsolescence, fires, storms, or other casualties. We keep our books according to the Interstate Commerce Commission requirements, and the Interstate Commerce Commission specifically provides for reserve for replacements in their accounting set up.

"Q. They may provide for reserve for replacements which means practically that fund is for the purpose of amortizing the plant and securing the investor the investment at the end of the period?"

"A. That fund is to protect the property"

"Q. To protect the property and to keep it at 100 per cent, so that at the end of the time the investor will have whatever is in the depreciation reserve added to the depreciated condition of the plant will mak it 100 per cent. That is the theory? ?

"A. No sir."

"Q. What is it?"

"A. The purpose of that fund is to care for replacements,

2735 due to these many causes I have mentioned."

"Q. Wouldn't that have that effect? The purpose of it is this depreciation reserve is set aside on the theory that the plant as a whole, aside from mere maintenance and replacements to keep it in operation, that it deteriorates. That is the theory upon which the depreciation fund is set aside upon?"

'A. Yes, sir, but that fund is being spent from day to day, and

week to week and month to month."

That is the reason it is set aside, to protect the property, to care for the replacements. That is replacements over and above the replacements under the Interstate Commerce Commission rules that we are charging to operating expense, those constituting minor repairs and up-keep from day to day. Certain character of replacements and renewals. In addition to that we set aside 6.33, not for the purpose of authorizing the deterioration of the plant, but for the purpose of caring for these replacements which are necessary. I do not think they are the same thing, not to my mind.

Mr. J. D. Frank: You are confusing maintenance and depreciation.

Mr. Howard: No sir, maintenance is paid out of the operating expense under the rules of the Interstate Commerce Commission. This in addition to that maintenance and replacements necessary to keep the plant operating and functioning to a reasonable degree there is another provision made for amortizing the investment.

Mr. J. D. Frank: Not amortizing.

Mr. Howard: For replacing it, that is amortizing it.

Mr. Hoag: To protect the property.

Mr. D. A. Frank: If amortized there would come a time when we wouldn't have any capital at all. Anything that is amortized is wiped off.

"Q. You are making provision to return to you your capital at the end of the time, at the end of the plant's life, and for that purpose,

over and above these maintenance expenses you set aside 6.33 per cent?"

"A. Yes sir."

"Q. Based on its average life, a little over 93 per cent?"

"A. On the basis that the plant has a life of from fifteen to sixteen years, I would set aside a sufficient sum during that fifteen or sixteen years to replace the plant. Now, whether it was replaced at the end of the period, or at various times through the period-

'Q. (Interrupting.) What do you mean by replacing it-such sum as added to its then per cent condition would

bring it up to 100 per cent?"

"A. A plant is not in 100 per cent condition, that is the physical

condition is not."

"Q. That is the theory of it, to bring it up so that the plant itself, as distinguished from the value, the rise and the fall of the value of the material and labor that has gone into it, this fund is for the purpose of creating-this sum you set aside 6.33 per cent is for the purpose of putting the plant back in 100 per cent condition?"

"A. Yes sir."

"Q. And providing for the difference between the plant in the condition it was originally installed, and the condition it is in at the It would be added to its junk value, that is what I mean. You say this plant was elegantly constructed in the beginning?"

"A. Well constructed."

A plant that is well constructed remains in better condition for its life than a poorly constructed plant. A poorly constructed plant might last as long. It might be used as long, but would not be in as good condition. This depreciation reserve is a sum determined by a realized depreciation which takes place from year to year. In our case it is determined from experiences in the State of Texas

for the Southwestern Telegraph & Telephone Company. 2738 don't know how depreciation in a telephone plant compares with depreciation in a street car system, I don't know enough about it to discuss it. I know that different utilities use different percentages, dependent upon what their experience has been as to the realized depreciations in like manner as we depend upon our ex-

perience.

Mr. J. D. Frank: We have got a whole lot on that, that we are going to put in.

My idea of the physical condition of this plant is based only upon such physical examination as I have given to it. I devoted about seven or eight days directly to inspecting the plant, but I did not dismantle any of it. I am very familiar with telephone plants, and can determine their conditions quickly and fairly accurately. I determined the physical condition of the plant but with that determination my inspection did not cease. In addition to the actual physical inspection of the plant which I made I also determined the number of troubles per hundred stations per month which we experience. For the year 1918, which is the last year in which we have complete statistics, of course, we experience about six

troubles per hundred stations per month. That is a very good indication of the condition of a telephone plant. The average telephone plant at this time runs eight to ten cases of trouble per month per hundred stations when figured on the same basis as we figure them.

am quite familiar with the Houston plant, in that I engineered a considerable amount of it and inspected a considerable amount of it at the time it was installed, and as the work progressed. That, in the case of underground conduit construction means this: that I know how a considerable amount of this underground conduit was constructed; I know that conduit was laid in an envelope of concrete; that that concrete was properly mixed, and that that furnished a good substantial structure and based on that I know in a general way what the condition of that property is which I could not see. My inspection included all of those things. I did not make a chemical analysis of it.

Redirect examination.

Questions by Mr. J. D. Frank:

The total reproduction cost of the physical property was \$5,683,610. I found the property in 92.91 per cent condition. My appraisal of the physical property with reference to its present condition is \$5,280,642. That representing the total reproduction cost of the physical property, less depreciation accrued depreciation. I do not figure any deterioration of the working capital, and cost of establishing business. It was considered with reference to the physical property itself.

2740 Item 10, the last item on the summary of my appraisal, is "Working capital, Including Supplies." I have included \$238,818 for that, and that includes the cash on hand necessary in the handling of a business of this size, the cash necessary to pay salaries and wages, to meet current bills, make ordinary purchases and similar things, and also includes as stated the value of the supplies. That is the amount of money we would have to keep on hand for the purpose of running this business. The accountants furnished me with that figure. The accountants will testify concerning that more in detail just as to how they got that figure.

Cross-examination.

Questions by Mr. Howard:

As to whether the company collected its revenues in advance, I don't know just what the practice is in Houston at this time. Bills receivable and bills payable enter into working capital, and the accountants can explain that in detail.

Redirect examination.

Questions by Mr. J. D. Frank:

I am not an accountant, but have just accepted the figures

2741 which have been furnished to me by the accountants.

I have found the cost of reproducing this property in its present condition, including cost of establishing business and working capital, including supplies, the total reproduction cost, less accrued depreciation, \$6,512,341. The cost of the Houston Exchange property as shown by the books of the company and as testified to by the accountant, Mr. Scott, shown in his exhibit No. 10, as of September 30th, 1919 was \$4,810,385.40.

The Master: What does that represent?

Mr. J. D. Frank: The cost of the physical property of the plant, as shown by the books of the company, as testified to by Mr. Scott.

I have considered the net and gross additions which have been added to this plant from time to time. The estimated population for Houston for the year 1918, based on the scholastic population on the ratio of 6 to 1, was placed at 160,000. The population must be considerably greater at this time. The growth of Houston has been very rapid—of the city. The future prospects for Houston are of course very bright, as indicated by all available data, such as bank

clearings, building permits, assessed valuations, bank deposits, and the growth in population. I have made a study of what the future of this telephone plant will be for, say the next ten

years. In 1929 we have estimated that Houston will have a population of between 245,000 and 250,000 people, and we have estimated that with that population in 1929, we will have a total of 50,749 telephones connected.

I have made an estimate as to how much money will have to be spent in the way of additions to this plant within the next ten years,

and I find that to be two and one-half million dollars.

I have testified to the present population of the city of Houston and have given an estimate of what the population will be within the next ten years. I have made a study of the history of this community with reference to whether or not its growth has been rapid or gradual. Its growth has been quite rapid in the last few years. From 1860 up to 1900, the growth might be considered as a normal gradual growth, but since 1900 the growth has been rapid. The population almost doubled between 1900 and 1910, and has more than doubled since that time. The prospects for the future are that the town should grow to 250,000 or 300,000 population. The geographical location alone is enough to make it a very large city. That is, that the population would go to that within the next ten years. I had a statement of the population by decades from 1860 to the present

ment of the population by decades from 1860 to the present time, which indicates the growth of the city. In 1860 the population was 4,800, in 1870 the population was 9,300; in 1880, 16,500; 1890, 27,500; 1900, 44,600; 1910, 78,800. Since 1910 the figures given are of course estimated in that a census has not been

taken since that date; in 1914 the population was estimated as 129, 500; in 1915, 147,100; in 1917, 154,600 and in 1918, 160,000. My estimate of what the population will be within the next ten years are based upon a telephonic study made of Houston. Our commercial engineers are constantly making studies of the various plants or communities throughout the State for the purpose of taking care of necessary additions from time to time, to aid in the financing and in the preparation of engineering plants, etc., to permit of caring for the

business. That work is done very carefully.

I have been connected with the construction of this plant down here in Houston in years gone by, and am fairly familiar with this plant, and also with this community with reference to its past history, and its prospects for future growth. Basing my opinion upon my knowledge of the local conditions down here, my knowledge of the plant, and the history of the community, I will say that this plant is capable of earning a fair return, it should earn a fair return. There is a need for such a plant as this in Houston. There will be a considerable increase in the demand for telephone capacity.

siderable increase in the demand for telephone service. From 2744 my knowledge of the plant itself I will say that this plant has been well constructed and it is favorably located and it

has been well engineered, and is well engineered.

I am familiar with the testimony that has been submitted in connection with the stocks and bonds that are outstanding. Basing my opinion on all of these things which I have stated that I have considered at arriving at the value of this property, such as the original cost, the cost of reproducing the property new, less depreciation, the potential earning capacity of the plant, the past history of the community, and the prospects for future growth of the city, the condition of the plant, its location and so forth, my opinion is that the value of the properties constituting the Houston Telephone plant is \$6,512,-That is of date October 1st, 1919. I take that date because that is the date as of which the appraisal was made. From my experience in the telephone business and from the careful study which I have made it is my opinion that was the fair value of the property on October 1st, 1919, that was the minimum value. That value is increased as of the present date, there would be some slight increase I have not added anything in my valuation of this plant for the item of patents. There are a great many patents which are used in the telephone business, and I have not included those in my appraisal because those patents are owned by the American

2745 Telephone & Telegraph Company, and under the 4½ per cent license contract, which the Southwestern Telephone Company has with the American Telephone & Telegraph Company.

the Southwestern Telephone gets the use of those patents.

Certainly the plant cannot be worth less than the reproduction cost less accrued depreciation. The plant has a considerable earning capacity, and as previously stated, it is well constructed, well engineered, favorably located, and is a first class plant. The business is of a kind which is necessary. I have given due consideration to the original cost of this property as shown by the books of the company, but I have taken the cost of reproduction, less accrued de-

preciation, as the value in preference to the original cost of the property as shown by the books for the reason that the books do not and cannot reflect the actual cost aside from value of the property. The book cost means little or nothing in determining the value of this property. The books do not show in any place the cost of establishing business, and that cost as given in the appraisal of reproduction costs of the property were added to the book costs then the book costs would show a total of \$5,833,266. In other words, the figures which I have put in here as the original cost as shown by the books, nothing is included therein for the cost of "Going Value."

If the estimated cost of establishing the business, or the going value were added to the book cost, then there would only be 2746 a difference of \$700,000.00 between the book cost and the estimated cost-reproduction cost of the property. In addition to that, if the books reflected the appreciation in the real estate owned by the Telephone Company in Houston, then that would add to the book cost, something in excess of \$100,000, which would in turn make the net difference between the book cost and the estimated reproduction cost approximately \$600,000.00. When I said "real estate" I mean the land and buildings located thereon. company like any other citizen of Houston, it appears to me, is entitled to any appreciation which may occur in its property. I have testified, if I added the cost of establishing the business, or "going value" to my original cost as shown by the books, the difference between the original cost and the estimated cost of reproduction would be something like \$700,000.00. I was speaking there of the estimated cost of reproduction new, less depreciation. In my opinion I think this property is worth at least \$6,512,341.00 as of the date of October 1st, 1919, and worth not a cent less than that at this date. That is my best judgment.

Cross-examination.

Questions by Mr. Howard:

I got the valuation of this property from Mr. Scott as shown by his exhibit No. 10, and that is \$4,810,385. That would be the book cost of the property. You cannot depreciate the cost, you can't take anything away from the cost. You could depreciate the property, but you can't take anything away from the property. A depreciation fund is set aside from year to year and that money is expended from year to year. My estimate of its present condition is that it is in 92 per cent condition. gardless of the cost of the property it is in a deteriorated condition. But you can't take anything away from the cost. The property does deteriorate and at any time a certain amount of the property is in a deteriorated condition. In getting the book value of the company's property you do not include your depreciation fund. That is spent in replacements. It is spent on the property in replacements entirely, to take care for all kinds of replacements. With reference as to whether or not it is a fact that renewals and extensions are often made, and are made by this company out of that fund, the money,

the money has, the money may be used and probably is used in the making of renewals and enlargements. If I had a plant that cost originally two million dollars and had set aside for several years a fund of six per cent on it, and get one hundred or two hundred thousand dollars in that fund you do not add that to the two million and have two million two hundred thousand. Two hundred thousand added to to two million makes two million two hundred thousand, but that fund is being spent from day to time and week to week.

"Q. I am not asking you about that. We are assuming now to set aside a reserve there of two hundred thousand, and then you take that two hundred thousand and make an extension to the plant with it, then your plant would cost two million, two hundred thousand dollars, wouldn't it, and you would have invested in the capital plant two million, two hundred thousand dollars, wouldn't you?"

"A. That two hundred thousand dollars could not be used for that

purpose."

If it were used that way then you would have two million two hundred thousand dollars in plant.

"Q. Then from that two million two hundred thousand dollars because the two hundred thousand dollars was set aside to take care of the replacements and to keep the plant up to a 100 per cent condition, you would have to deteriorate or depreciate the plant in the sum of its actual deterioration, wouldn't you, in order to get the right value on the cost basis?"

"A. No sir, that two million, two hundred thousand dollars is still invested in that plant regardless of where that money came from

or regardless of the physical condition of the property.'

It is invested there, however, out of the pocket of the original investor or owner of this property. He puts in originally the two million dollars in plant, then he goes on operating the plant, and

doesn't make any replacements, say, for five or six years, except the replacements that the Interstate Commerce Commission requires until his depreciation fund shows two hundred thousand dollars; I can get that idea.

"Q. (Interrupting.) Well, you have got that idea, you have got a plant now that is partly depreciated and you have got in your fund two hundred thousand dollars, haven't you, that was included to take care of that depreciation, you have got that, haven't you?" "A. Yes sir."

"Q. Now, you take that two hundred thousand dollars then and make an addition to your plant, then you have a cost there of two million two hundred thousand, haven't you?"

"A. Yes sir."

"Q. Now, will you say that that represents the true value of the property tested by the cost method?"

Mr. D. A. Frank: Certainly not.

"A. If I may be permitted to explain, Mr. Howard, I think I can make that clear to you."

"Q. That is clear to me, I am trying to make it clear to you.

That is the difference between us."

Mr. D. A. Frank: Let him answer the question Mr. Howard.

"Q. I wanted to test your theory. You are qualifying 2750 here as an expert valuation engineer in the way of setting up the value of these properties, and you showed us how you could reproduce the plant new and you told us how you could do it by the cost method and I am asking you if there are any additions made out of the depreciation fund. Now, by "additions", I don't mean replacements, I mean something that has gone to extend the plant and you have this two hundred thousand dollars and you make additions of it, then the cost of the plant aside from replacements is two million, two hundred thousand dollars, isn't it?" "A. Yes sir."

"Q. Now, do you tell me as a valuation engineer that that is the true test of the value of the property?"

Mr. D. A. Frank: Certainly not.

"Q. And that you test it on the cost method?"

"A. No sir, if you will permit me to explain, I am quite sure I can never answer your question, I cannot answer your questions any other way, I don't think."

The reserve for replacements is set aside from year to year; that reserve may be accumulated. This company has accomplished a reserve of some of some 20 per cent of the value of the property. Now, that money is used from time to time. from day to day as depreciation on the property is realized; in other words, as a pole wears out it as replaced out of that reserve fund for replacement.

"Q. Now, where a pole wears out, don't the Interstate Commerce rules under which you keep your books permit you to 2751 "A. That is a major replacement."

One pole is a major item of plant, minor items of plant that are handled as maintenance and repairs are such things as the cord, as the receiver cord, on the telephone, the cord on the switchboard; those are minor items and a pole is considered a major item.

Mr. D. A. Frank: Let him finish.

Mr. Howard: Well, he has given me two or three illustrations.

Mr. D. A. Frank: He has not finished about the pole yet.

Mr. Howard: But he has digressed now to give me some knowledge about what replacements are. This depreciation fund, that is the thing we are discussing. He has gotten up to the point where he is going to enlighten me-

Mr. D. A. Frank: You have not permitted him to answer the

question about this pole being a major item.

Mr. Howard: He told me it was a major item so I accepted his statement of it and ask him now to proceed with the depreciation fund and tell us what becomes of that. The reserve for replace-

ments is used, as I just stated in caring for replacements, for any costs, that is, it is used to protect the property. Now, that money accumulates and instead of having it lying idle,

the money is reinvested in the property.

"Q. Yes?"

"A. That is a decided advantage."

"Q. I am not talking about the advantage of it, you do that, don't you. I am not speaking about the advantage of it?"

"A. If you permit me to explain this, sir, I think I can make this

clear.

"Q. That is a decided advantage to the public, I am not talking about that. I am assuming that they do that, and they have got a perfect right to do it. I think we have agreed upon that, that they do

"A. In fact they save the interest charge on the money-

"Q. (Interrupting.) I understand that, I admitted that before you started. I didn't have to be told the advantages of borrowing from your depreciation fund, because I knew it. It is good business and economics and entirely proper, but now what I am asking you about is when you do borrow from it and make extensions out of it and that is added to capital, whether then in order to get the real value of the plant tested by this method, you depreciate it?"

"A. You can take nothing away from the cost, in that that is cost, that is what it cost. It appears as a physical fact and has nothing to do with the money. If the plant cost two million two hun-

dred thousand dollars, that is what it cost, and you can take 2753

nothing away from it."

"Q. Well, now, then, according to your theory, you want to take this depreciation reserve that the community allows you to set aside for the purpose of replacing your plant and divert it as I have admitted you have the right to do to the purpose of extensions and then when you have made those extensions out of your depreciation or replacement fund and added it to capital, instead of paying it back here to replace the first investment and keep it up to 100 per cent then you say that the original investment plus the amount that you have added in addition out of the depreciation reserve is the true value of the plant tested by the cost method, without depreciation?"

"A. No sir, I haven't said that."

"Q. Well, you said you couldn't take anything away, you couldn't depreciate it because it is what it cost, and you couldn't depreciate property so far as cost is concerned?"

You can depreciate property." A. You can't depreciate cost. "Q. I am not talking about cost, I am talking about property." Theoretically, take this illustration, we start with two million dollars that is invested in the plant. Now, that is the money that he has got in there, isn't it, two million dollars, that's true, isn't it, Mr. Hoag?"

"A. Yes sir."

"Q. Now, this other two hundred thousand, he didn't invest, he has taken that out of the earnings that the public pay, he takes that much of the money, besides the fair return that he has been permitted to earn, that is the theory, paying operating expenses and yielding a fair return, and they are permitted for the purpose of keeping the plant up to its 100 per cent condition, they are permitted to set aside this depreciation fund. Now then, they have done that, but instead of taking that depreciation fund and allowing it to lie idle, they made additions to capital, that is, they extended their plant. Then in order to get the true investment, you have to take the old original part of the plant that stands for the original investment and you add the new plant that you made out of the money that the people have allowed you for depreciation, then you get two million two hundred thousand dollars, but it will be assumed that this original property that stands for the original investment has been depreciated to the extent that the diversion is, to

the extent equal to the diversion, isn't that true?"
"A. No sir, there was scarcely any part of your statement true."

As to whether or not I may think that it is true, I beg your pardon, but I am just telling you the way it impresses me. The money that is set aside in the reserve for replacements is only used in the making of extension and additions to the plant, for the reason that it is not economical to leave that money lying idle. The

fact remains that you have diverted it, and that the investor in this plant has not a dollar of new money to the plant by reason of these extensions.

Depreciation is something that is unavoidable and that money has to be spent for depreciation eventually. You have the two million dollars, the original investment—that is what the man that started it has put into this community to serve the public, two million dollars, but everybody realizes that in the service of the public this plant is going to deteriorate as time goes on; that's true. They have to provide against. They say you can also earn out of our payments which we are contributing to you, a fund to be set aside to keep up your plant, your original plant up to 100 per cent condition to protect your property.

"Q. Now, he keeps that fund but instead of replacing his plant, we admit the reasons are proper, he diverts two hundred thousand dollars and makes additions, so that you wouldn't contend that the man who owns this plant has put into it by way of his own investment and out of his own pocket two hundred thousand dollars, would you?

"A. Yes sir, for this reason."

Up to the point where you say this fund is created, that is correct. Now, from that point on, that money is used temporarily for the purpose of making additions to the property rather than to borrow money and pay six per cent on it. Then there comes a time when the depreciation is realized, even in five years, ten years, or fifteen years; then that two hundred thousand dollars has to be spent to care for that realized depreciation and

this usage of that money in the interim simply means that the money is not lying idle, but instead it is earning a return and thereby reducing the reserve for replacements which it is necessary to set aside.

I have not had any experience in financing telephone companies. I have had considerable experience in the accounting as relating to all kinds of plant construction and maintenance and that sort of thing, and am, of course, familiar with the general accounting methods. Individually I have had experience in buying and selling telephone exchanges for the Company; I have bought a very

considerable number, have appraised and purchased.

In my opinion I say that you cannot value a plant upon the accounting method or cost method; in nearly all the properties which I have purchased the same method of valuation was used as has been used here by me, in that we would inventory the property and determine what its present or per cent condition was by a physical inspection. Then the final determination of value was arrived at after considering the possible earning capacity of the property, the appraised reproduction cost, and all of the other things in a general way, of course, as have been considered here, and that would finally determine the price.

Supposing that suddenly a radical change would take place 2757 in the currency of the country and prices would begin to tumble until they got down to prices at the pre-war levels, or below, bringing the value of these utilities to a price where they could be reproduced for much less than the actual money that went into them, and at the same time, if Mr. Frank is correct, in his idea about the Courts, they had undergone a change of opinion and said that you were entitled to get all that had been invested in the plant, I would know how to go about arriving at that value. It would be

a very difficult method to build it up in any more accurate form than these estimates of reproduction.

Assuming now where our reproduction values would be far below the money that was put into them, and we wanted to preserve our returns from being confiscated, and I was told to go and bring before the Commission or the Court, the amount that we had sunk in these properties, it could be done. As to whether or not in doing that I would catch everything that we had ever encountered in the way of trouble or loss or damage or injury, everything that can be conceived of in the building up of the telephone company, is what I was trying to explain. I understood your question, and I was trying to explain that, to get at that value in such a case as you stated, it would be necessary to estimate many things in like manner as this estimate was made up.

2758 "Q. In fact the books are correctly kept, the company that is handling this money has got a good sufficient corps of book-

keepers all the time?"

"A. It has been repeatedly suggested that the books have not been so kept in years gone by, that you could determine what the property actually cost. That is generally admitted."

O. Mr. Hoag, the only objection ever urged to any investment

here by any court, Commission or anybody else, the only objection that has ever been urged to the investment or original cost or accounting method of valuation, that is the only one thing, isn't it?"

"A. You are covering a good deal of ground there. I am not pre-

pared to say that that is the only objection?"

I know that it has been customary to arrive at values in this manner, by making an estimate of the cost - the reproduction cost of the new property, that is, for all the period that rate cases have been heard that has been customary.

"Q. Why there was quite a fight put up in the case of Smyth vs. Ames against the cost method, wasn't there? The utilities were all adopting the cost method and the people conceived the idea that they had probably been too expensive in the handling of the 2759 finances and they wanted to pay only upon what the properties were worth, what they cost to reproduce them?"

Mr. D. A. Frank: That is a matter for the court, it seems to me like.

"A. Well, I know about these things from an engineering and telephone standpoint, but not from a legal standpoint, Mr. Howard."

"Q. Well, that is what I am trying to get at, Mr. Hoag, that your knowledge of telephony is largely a knowledge of the physical construction and you have been employed very much in that line of endeavor as cincerns telephone companies and not in the manner of handling their accounts or taking their historical accountingd and figuring the method of valuing them and what they do with their depreciation reserve; that hasn't claimed your attention very much?"

A. All of those things have come under my attention to a considerable extent."

I have assumed that all valuation and equipment engineers keep pretty well in touch with the decisions of the courts and the Commissions, that is, professional witnesses. I mean by "professional witnesses" men who make a business of testifying in rate cases,

rather than men who make the telephone business their busi-2760 ness. I have valuated many properties, have purchased many

properties, have looked after the construction and engineering and maintenance and organization of the dorces incident to the doing of the work. I have done all of those things and most everything excepting actual financing. I am a professional telephone

Mr. D. A. Frank: I think his evidence in this case for the last two weeks speaks for itself.

Mr. Howard: I want to test his knowledge and the things that

affect his knowledge.

Mr. D. A. Frank: Well, but you are testing his modesty and not his knowledge.

These professional witnesses develop, I might say this in all modesty, in like manner as I have developed in that they work up through general engineering work, construction work, and that sort of thing before they can qualify as a witness.

Mr. Howard: I want you to understand, Mr. Hoag, right here, in asking these questions, I did not intend to be impertinent . In fact, I have a great admiration for your ability.

Mr. D. A. Frank: Thank you sir.

Mr. Howard: I say that very frankly and very chee-fully, but I was just making the point that in the matter of handling ac-2761 counts, and arriving at rates, he is not a professional valuation engineer, but that he is a very competent and thorough

construction engineer, and knows how to estimate a building.

Mr. Hoag: But, my point is Mr. Howard, if I may explain is simply this, that I know more about what really happens, insofar as telephone construction, operation and maintenance is concerned, and less about he decisions of Courts and Commissions than some men whom I would consider professional witnesses. When I use the term "professional witnesses," it may be my poor choice of words. Maybe my choice of words is rather unfortunate for I don't mean that in the sense of discrediting professional witnesses. I mean men who make a business of testifying in rate cases, and who are more familiar with the rate case decisions and the Commission decisions and so forth, Courts and Commissions, than they are with the actual construction, operation, maintenance, and so forth of properties.

Mr. Howard: Well, most of those men that you refer to as professional witnesses are high class men and qualified and keep abreast

of all matters pertaining to valuation.

Mr. D. A. Frank: I don't see how there can be any ques-

2762 tion on that.

Mr. Howard: Well, it is an issue. Mr. Hoag has advanced a good many ideas along the line of valuations that are not strictly what he has done, about which I don't think he is qualified.

Mr. D. A. Frank: Oh, if you expect to disqualify him. Mr. Howard: I do expect to disqualify him where it gets to the point beyond his actual experience. I am asking him that, and I believe he stated himself that he didn't profess to be a professional valuation engineer.

"Q. You have never made any detailed study of valuation, what the different commissions hold upon, and things of that kind and the manner in which they set up their accounting records and take care of the depreciation reserve, and the manner in which they depreciate the property under their methods?"

'A. All those things are covered fully, first in the I. C. C. hand book, the Interstate Commerce Commission, covering accounting.

That is the bible on that part of what you asked about."

"Q. Have you made any great study of traffic expense, and things of that kind?"

"A. I know what traffic expenses are."

"Q. Well, have you made any great study to know when 2763 they are economical and when they are not."

"A. Well, I know when traffic expenses are excessive and when

they are not in a general way, of course."

"Q. Well, now as I stated a while ago, if you would start out to value a plant that way, by getting its costs and the books are kept then this method includes and will catch or carry in the value of the property everything that has been spent including things that have been spent for equipment that soon become obsolescent, equipment that was inadequate and had to soon be discarded, it will catch everything like storms and damages of that kind won't it, Mr. Hoag, and reproduce it gradually?"

"A. In fifteen or twenty years from now. With our present method of bookkeeping, and the matters which may be—

"Q. (Interrupting.) I asked you, assuming that the books were correctly kept."

Mr. D. A. Frank: That is a false assumption.

Mr. Howard: I don't know what can be shown. I am confident that you can show your books were pretty accurately kept, if you wanted to.

Mr. D. A. Frank: We haven't said they were not accurate; 2764 we just said they did not have everything in them.

"Q. Well now, assuming that the books have been accurately kept, and all the money that has been paid out, there is a record of it, that method of valuing property, and finding out how much has been invested in it, will absolutely ascertain everything that has been invested in the property originally, everything that has been expended by reason of obsolescence and where you have to change your switch-board because it becomes obsolescent and because you find that some of your equipment is inadequate and have to take it out, the accounting method, always assuming the books were correctly kept, will show with accuracy what has been expended, won't it 9"

"A. If the books have been so kept, it would show that."

"Q. And in this cost of establishing business nothing is left to estimates and conjectures?

"A. If the books were so kept, yes sir."

"Q. If the books were accurately kept. If fact, Mr. Hoag, in the cost of developing business you have made estimates of that, For instance, take the item of attaching your subscribers, practically all of that is paid out of operating expenses?"

"A. You are speaking now of the plant which is in operation?" "Q. The plant which is operating, speaking of this par-

2765 ticular plant.

"A. The plant which is in operation?"

"Q. The plant which is in operation?"

"A. Those expenses are commercial operating expenses."

"Q. And that cost of establishing the business of this plant and attaching your subscribers has been paid out by the community from month to month and from year to year as time went on, out

of the amounts paid by them in the form of collections by this company?"

"A. I suppose they have."
"Q. Then, anything of that kind then you are familiar enough with, matters of valuation to know that it does make some difference where the money comes from, and those costs you weald not add to capital account then, would you?"

"A. My set-up is the estimate of the cost of reproducing the business and necessarily those costs, which would be incurred, the expenses which would be incurred, would be added to the capital account."

"Q. Your set-up, I believe, embraced just a short time for con-

struction, did it?"

"A. It embraced the construction period, also the following two

year development."

"Q. Well, now, getting off of an imaginary plant and getting down to this plant, you are seeking to raise the rates on the cost of developing your business, has almost entirely been paid out and has passed out in the way of operating charges, has it?"

"A. I don't know that, I couldn't answer that.

"Q. Well, that is one of the things that professional valuation engineers would understand?"

"A. The accountant would be the only person that could answer

that."

"Q. And you don't qualify as to things of that kind?"

"A. I don't undertake to answer that question."

Mr. Howard: Well, those are things that I wanted to show by somebody. I suppose you all, will put on somebody that knows something about those things, and with that understanding, I will discontinue this examination.

Redirect examination.

Questions by Mr. Duls:

I am not a professional witness and this is the first time that I have appeared in Court to testify. I have been testifying as an engineer, acquainted with telephone property and with construction of telephone property, and the purchase of telephone property, and I have tried to give the court my best judgment of what is the value of this property here in Houston. I have not testified as an I do not mean to say that this amount that I have testified to \$6,512,341.00 is the exact value of this property here in

Houston, but I stated that I considered that the minimum 2767That figure represents the total estimate of the repro-

duction cost of the property, less accrued depreciation. my judgment as an engineer and as a man acquainted with the telephone property, I think that figure represents the minimum amount that ought to be placed upon the value of this property in Houston. After taking into consideration all of the different

things that Mr. Frank has asked me about, the location of this plant, the size of the community here, the character of it, and the stocks and bonds, and all of those other things, my estimate of the value would be a different figure than \$6,512,341.00. My estimate of the value of the property would be around seven million dollars. not mean to tell the Court that the value of this plant can be determined to the extent of one dollar. In my judgment, as an engineer, and as a man acquainted with the value of telephone properties causes me to say after I have considered all these facts, this cost of reproduction figure is one fact, and the other fact asked me by Mr. Frank, that the value of this property is around seven million This \$6,512,341 represents the estimate of the reproduction cost of the property, less accrued depreciation. The potential earning of the property, that is the fact that it is a necessary business,

that it is well located, and in connection with all of the other things that we have mentioned, means that it is a very desirable telephone property. I can't conceive of a business of this kind, not being permitted to earn a fair return. My experience has been that people generally are fair and are willing to pay a proper charge for anything, and I believe these people are willing

to pay a proper charge for telephone service.

As an engineer, and as a man who knows how to value telephone properties, I do believe that the reproduction cost of the property is the minimum amount which ought to be placed upon the value of

a telephone property.

If a man were valuing this telephone property and wanted to buy it he would give a little bit more than it would cost to reproduce it in my judgment. I have paid more for properties than it would cost t to reproduce them many times in buying them for this com-That has happened right recently, since December, between December and August I purchased some eight or ten properties in Texas. I purchased the Eastland property, the Ranger property, the Gorham. Desdemonia and many others. These properties that I purchased were all independent properties and didn't have any-

thing to do with the Bell Telephone Company.

2769 I do not know as an engineer whether or not there were any deficits when this company first started operating here in Houston so therefore I don't know whether those deficits have ever been paid or not. But in this estimate here in which I say there would be deficits during the development period if I were going to reproduce this property, that is my judgment as to what would take place, but it is my judgment, as to what would actually take place if I were going to reproduce this property.

Cross-examination.

Questions by Mr. Howard:

I think this property is worth around seven million dollars. estimated cost of reproducing it is six and one-half million. includes all of the expenditures which would be in connection with

the reproduction of the property as best I could determine. I did not then add on a million dollars for good measure—that is one of the expenses which would be incurred in reproducing this property.

"Q. Mr. Hoag, you stated to me the other day that for the purpose of valuation, as I understood you, that it didn't make any difference whether things were paid out of operating expenses or not, it didn't make any difference where the

money came from. Is that your idea of getting at-

Mr. D. A. Frank: I don't see what difference it makes about Mr.

Hoag's opinion on that, Your Honor

Mr. Howard: Well, he has just asked him what his opinion was as a valuation engineer and I want to show that as a valuation engineer he states it don't make any difference as to the additions to final value whether certain things have been paid out of operating expenses or out of original investment, I want to ask him if he didn't make that statement.

"Q. You made that statement to me the other day, didn't you, Mr. Hoag, that it didn't make any difference where that money came from?"

"A. I made that statement to you in that you were wrong in the

statement that you did make."

Mr. Howard: No, I didn't make any statement, I didn't testify at all. I asked the question. We were talking about some of these construction items and I asked you about some things that were related there, if your item of construction wasn't paid out of

operating expenses and you told me that it didn't make a

particle of difference where the money came from.

Mr. D. A. Frank (interrupting): That is just exactly what the Court holds. We will furnish you authorities on that.

"Q. Mr. Hoag, where were those plants, did you enumerate them all. I heard the ones you enumerated, were those all you purchased?"

"A. No sir, I purchased Breckenridge."

"Q. Where is Breckenridge?"

"A. Not Breckenridge, but Burkburnett, up from Wichita Falls,

and purchased the Big Springs Company."

"Q. I don't care about your detailing them all. What was the maximum value, if you don't mind stating, without stating the name of the place?"

"A. One of them was over one hundred thousand dollars. The

others varied."

"Q. Some as low as ten?"

"A. Yes, I bought one for \$3,500."
"Q. Mr. Hoag, would you say that there is a man on the face of this broad Globe or Mars, or any of the other planets that would come in here and pay seven million dollars for this telephone company today?"

Now, let me have your honest belief on that, will you?"

"A. Any man who wanted to go into the telephone business in a big way, and had the money to go into the telephone business, and if that man knew the telephone business, he wouldn't hesitate a minute in paying seven million dollars for this Houston Company property."

"Q. It is a good business, isn't it?"

"A. It is a good business."
Q. And attractive?"

"A. It is a good property in a good location in a good town."

"Q. Now, Mr. Hoag, don't you know, or is this out of your line, also, that in the matter of investments that men never do invest in properties during abnormally high prices, they don't buy real estate when prices are probably due to specific abnormal prices unless it is property they have to buy?"

"A. That isn't true in Texas today, sir; there is some activity."

"Q. Is there more activity in the public utility line today in Texas than there ever has been?"

Mr. D. A. Frank: You asked him about land.

Mr. Howard: Well, he is talking about public utilities.

"A. So far as the public utility is concerned, the reason that the demand is not very great at this time is that the factories have 2773 not been able to supply them with the material required.

That is the only thing that is holding back the utility building today, and I say that after talking to other utility people, they

are all trying to get materials.'

"Q. Don't you know that when you make up an inventory and apply these prices, then when you are determining values that the elasticity of your market or the contraction of your market, or to put it in another way, the more persons that are disposed to buy, the better the value, that is, if the class to which you can sell your commodity is limited, that it tends to narrow and restrict that value of that commodity or business?"

"A. No sir. I don't know that."

"Q. Is there a concern in the United States today that would finance and buy a telephone company of this magnitude at the present price levels?"

"A. A property of this kind does not change hands very often."

"Q. Property of this kind won't change hands during these times of abnormal prices, will it? Now, isn't that your honest belief, to get right down to what you really think, do you think that a property of this kind would be purchased by any investor under these abnormally high prices, with the chance, at least, for prices to radically decline?"

"A. That is just a bit difficult to answer. I answered it previously in this way, saying that a man who wanted to go into the telephone business would buy this property in

preference to most any other of like size"

"Q. And the only way that your property has any value aside

from its earning capacity depends upon securing a purchaser, that is able and willing to buy it, don't it?"

"A. No sir."

"Q. Well, what other way now? I said aside from the purpose that it is serving and the use that you make of it?"

"A. Well, aside from that, the property, of course, has a junk

value."

"Q. Well, are you willing to accept a junk value?"

"A. No sir.'

"Q. Then you didn't intend to advance that as one test of its

value then, did you, Mr. Hoag?"

"A. No sir, but the earning value, or present earning value and the potential earning value of the property, the kind of property, the kind of business, the location and all, all those things have a bearing on the value.

Mr. D. A. Frank: The trouble about Counsel is, Your Honor, that he is confusing salability with the question of value, and they are not identical.

Mr. Howard: Salability always bears upon value.

Mr. D. A. Frank: Here's a building that we are in right now that the United States Government wouldn't sell for a 2775

dollar less than cost. Now, would you want such a building? Take the telephone building right across the street, now would you buy that except for a telephone exchange?

Mr. Howard: And yet you are trying to increase it just as much

as the materials have gone into it-

"Q. Mr. Hoag, you take for instance this building that he cited, the value of that when you come to measure its value by the cost of the material that has gone into it and the labor that has been employed and saying that it is worth much more now and that there is that much more inherent value in it, you say that would be correct, the correct way to get at the valuation of this building, although there would be no purchasers for it on the earth?"

"A. That is one of the things that justify the reproduction cost new theory. This building has no salability and one of the ways of arriving at the value of this building is to determine what the reproduction cost new of the building is. That is what we did with our telephone property. If telephone properties the size of Houston's were changing hands from day to day week to week, or even from year to year, then we would have another way of measuring the value of this property."

"Q. What I am trying to get at, have you any way on earth of realizing the value of this property in dollars and cents, all the labor and material that has gone into your plant, is there anybody on the face of the earth that would buy it from you at those increased values?"

"A. Well, our property probably has no salability; there is probably nobody wants to buy this telephone property.'

Redirect examination.

Questions by Mr. William H. Duls:

In my estimates that I have made here of the reproduction cost new of this property, that is, what it would cost to produce it new, in my opinion that estimate is conservative. I have not used abnormally high prices in making the estimate, that is, I have not even used present day prices in making the estimate, that is, prices today January 15th, 1920. I have previously testified that prices have increased since the date of this inventory.

"Q. Now, Mr. Howard asked you if telephone properties were being bought and sold at prices that were prevailing today; you have testified haven't you, that you have bought telephone prop-

erties-

Mr. Howard (interrupting): That's been gone over and he has

testified to it, what's the use of going over it again?

Mr. Duls: I want to bring out, that is redirect examination, in answer to Mr. Howard's cross-examination, I had already brought out that he had bought telephone properties,

and then Mr. Howard brought-

I arrived at the price to be paid for those properties in exactly the same way that I have gone about determining the value of the telephone properties here in Houston. I do that all the time whenever we purchase telephone properties; that it the way we always arrive at the cost of the property. I did not put any oil value on those out there, but we paid some oil prices. We had to buy those properties to render long distance service to the public in that the independent owners were unable to finance them. It was in part to feed our long distance service, and in part to take care of the local business.

Mr. Duls: We have one other item that we want to take up with Mr. Hoag, that is, it does not enter into the determination of the value of the property here, but it is an engineering matter and something that has been referred to already. It is the annual reserve for depreciation and with Your Honor's permission, I would like to take just a few minutes to explain just what the annual reserve for depreciation is, and just what it is intended to take care of, so that Your Honor will have clearly in mind when Mr. Hoag testifies the amount that is necessary to take care of that reserve and so that you

will understand his testimony.

Now, the telephone property of the company here in Houston is devoted to a public use and it is being used by the public. In addition, however, that property is being consumed in the public service. Now, it must be clear to Your Honor that the different physical parts that make up the whole of the property here have a very limited life; in other words, their useful life is limited. The poles, for example, rot and the switch-boards become obsolete, the property wears out or for one cause or another becomes inadequate, or it is wrecked by a storm say, from one cause or another, and usually from a combination of causes the property has to be re-

placed, so that unless the owner receives in addition to a fair return for the use of his property, an amount which will enable him to replace it when it comes to the end of its useful life, he will be in the position of one who has collected interest for a few years but who has lost his principal. Now, the amount in the reserve for depreciation is nothing more than the amount which the Telephone Company sets aside each year to enable it to replace its property as and when it comes to the end of its useful life. The Supreme Court of the United States as we attempted to show Your Honor in argument the other day had held that in these rate cases we must take the present value of the property and we have gone out and ascertained that present value as well as our best judgment unables us to do. Now, there have been, however, some suggestions in

2779 some Commission decisions and there are also some engineers who have theorized along the same line and Mr. Howard has advanced the same theory to the effect that there is a measure of direct relation between what you have in your reserve for replacements and the condition of the property at any particular time.

Now, the Supreme Court of the United—, as Your Honor will find when you come to read the decisions, has not passed on that matter and if any conclusion is to be drawn from the Supreme Court decisions, it must be a deduction. Now, we regard the matter about in this way. The present condition of the property is a fact. The present condition of a pole out on the street or of a piece of switchboard, is a fact. The present condition of this suit of clothes that I have on is a fact. The present condition of the house in which Your Honor lives is a fact, and it is wholly independent of whether you have set aside any reserve with which to replace that house or whether you have been keeping up insurance on it or of any other condition. Now, Mr. Hoag and the Telephone Company have tried to ascertain just that fact, namely, the present condition of this property here in Houston, and then we have sought to ascertain how that present condition affects its present value, and we have done that entirely independent of any amount that is in the reserve for There are some decisions which indicate rather definnitely that that is the way to consider it. In other words, when you are going to find put the value of property, what

when you are going to find put the value of property, what you deduct is not something that you have in the reserve but you deduct the amount which represents the actual loss in the newness of the property, in other words an amount which represent how much it has lessened in value. Now, that is what depreciation means, a lessening value, and that is what the Supreme Court of the United States means when it says and when it holds, as it did in the Denver Union Water Co. case that the cost of reproduction less the depreciation is a fair measure of value. Now, this position, as I say, has been taken in several cases. The Utah Service Commission in the case of Utah Light & Traction Company reported in Public Utility Reports, 1918 B at page 497, uses these words in regard to this matter which we are discussing:

"As regards depreciation, we believe this Commission may well hold along the same lines as the Idaho Supreme Court, which in

Murray v. Public Utilities Commission 27 Idaho, 619; 150 Pacific 47, said: 'So far as the question of depreciation is concerned, we think deductions should be made only for actual tangible depreciation, and not for theoretical depreciation, sometimes called accrued depreciation.'"

Interpreting that, as I remember, Your Honor, it means this: That when you find the value of a public utility property or a public utility plant, you do so by deducting the actual amount of the depreciation or the deterioration that has taken place in the property.

You don't go and deduct what you may have in the reserve

for replacements, you don't go to the books in any way, because the actual amount of the deterioration or the depreciation in the property is something entirely independent of the books. Now, not so many years ago, we had a fire in Paris, Texas. fire destroyed practically the entire exchange of this company in that city. The central office burned down and the poles were burned in two, and the wires were down in the streets. The company had in its reserve to meet that fire, reserve for replacements, \$1,200.00. The actual amount of the damage was over \$40,000.00. cording to the theories of some of these Commissions and some of the engineers, and according to Mr. Howard's Theory, you would determine the value of the property of the Southwestern Telegraph & Telephone Company in that city on the morning after the fire, by deducting from the reproduction cost new, if that was your method of ascertaining the value, or from the actual cost if that was the method you were going to use, the amount which is in the depreciation reserve or in the reserve for replacements. Now, in other words, that is to say, that in the case of the Paris fire, these engineers and Commissions and Mr. Howard would say that the value of the company's property on that morning after the fire is \$1,200.00 less what it would cost to reproduce that property new. Now, I ask Your Honor, if you would for one minute consider that the sum arrived at in that way represented the value of that property in its burned condition, when everybody knows that 2782 there is practically no telephone plant there at all, because

the whole thing has been practically destroyed. The measure of the present condition of the property has nothing to do with the amount in the depreciation reserve, in other words. If there was no reserve at all, the property would still be depreciated. If you had no reserve, the present per cent, physical condition of your property wouldn't be changed and wouldn't be affected in any way. reserve is merely a bookkeeping thing and it is entirely independent of the condition of the property. So, that, the first thing we would like to make clear to Your Honor is that this Reserve for Replacements has no relation and has nothing to do with the actual amount of the depreciation or deterioration which has taken place in the physical property. And, second, this amount in the reserve for replacements has nothing to do with the maintenance and repairs. Now, just to make that clear. Suppose that I have an automobile, a Ford say, it is not in very good condition, it is pretty old. repair that car every month and every two or three months I go around and pay the repair bill on it. That is maintenance, and yet I know, just as well as I know my own name, that that car isn't going to last over a year or two longer, and if I were doing business in the right way, I would be setting aside a reserve so that when this care left this life, I could replace it. Now that, Your Honor is exactly what the telephone company does. It has a repair account, which takes care of the maintenance and the repairs to

the property as the operation of the property goes along and then it has a reserve account out of which it replaces prop-2783 erty as it comes to the end of its useful life. The Telephone Company does not set aside an amount sufficient to build a new plant, that is an additional plant, it only sets aside such an amount as will enable it to replace property or parts of the property as they come to the end of their useful life. Any extensions or any additions to the property, we would make out of new capital. So that to sum up, what we would like to have Your Hon-r understand at this time is that this reserve for replacements hasn't anything to do with the actual amount of the depreciation in the plant, hasn't anything to do with repairs and maintenance and hasn't anything to do with extensions or enlargements to the physical property. Now, we are required, Your Honor, to set up this reserve for replacements, not only by the command of the Interstate Commerce Commission but by the command of the Courts as well. preme Court of the United States in the Knoxville Water Co. case. City of Knoxville, rather, vs. Knoxville Water Co., reported in 212 U. S., 1, uses these words:

"Before coming to the question of profit at all, the company is entitled to earn a sufficient sum annually to provide, not only for current repair, but for making good the depreciation and replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the property

2784 invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation at least, its plain duty to the public. If a different course were pursued, the only method of providing for replacement of property which has ceased to be useful would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization—a tendency which would inevitably lead to disaster, either to the stockholders or the public or both."

And the Interstate Commerce Commission, in its System of Accounts prescribed for Telephone Companies, on page 67, paragraph 23, says, under the title "Depreciation of plant and Equipment,"—"Telephone Companies should include in operating expenses depreciation charges for the purpose of creating proper and adequate

reserves to cover the expense of depreciation currently accruing in

the tangible fixed capital."

And then follow provisions which define exactly what shall be included in this Reserve for Depreciation, which provisions will be referred to by by Mr. Hoag in his testimony and Mr. Hoag's testimony and Mr. Hoag's testimony and Mr. Hoag's testimony are the property of the province of t

mony will also show how we arrive at the amount which is set aside and the percentage. In this memorandum which

I have here in my hand, which has been handed to Your Honor and also to counsel on the other side are a great number of Commission decisions in which the percentages allowed for replacement are given, in which they vary all the way from five to ten per cent, indicating a general average of between six and seven per cent for telephone properties. There are two Supreme Court cases which have come to our attention in which a seven per cent has been allowed for this item. One of those cases is Cumberland Telephone & Telegraph Co. vs. City of Louisville, 187 Federal, 637, where the Court in discussing this matter said: "In our view, seven per cent of the value of the plant is the proper per cent to allow for depreciation." And in the case of Pioneer Telephone & Telegraph Co., vs. Westenhaver, 118 Pac. 354 the Supreme Court of Oklahoma said:

"In the foregoing case, the amount of annual depreciation in an electric light plant was involved, and held to be five per cent of the value of the property. In the opinion, it is said that the depreciation will vary from five to ten per cent, depending upon the circumstances of each case. We think under the evidence in this case, that seven per cent of the reproductive value of the physical property is fair and sufficient to allow for annual depreciation."

Now, Your Honor, to many minds depreciation involves only the idea of wear and tear and rot and rust. Now, those are only 2786 some of the reasons or causes that tend to make it necessary

to replace telephone property and they are only a small amount of the total causes. There are a great many other causes, for instance inadequacy and obsolescence and public requirements and extraordinary casualties, such as storms and fires and floods and all of these are referred to by the Interstate Commerce Commission in that account that I just read to Your Honor and defined by the Interstate Commerce Commission in requiring telephone companies to set up a reserve out of which to replace property, so that a more accurate term to use would be the annual reserve for replacements instead of the annual reserve for depreciation, and that is a term that the Courts and Commissions are now using and that is what we will use hereafter in referring to the item, the Annual Reserve for Replacements.

Mr. Howard: In regard to the remarks of Mr. Duls, Your Honor, we have nothing to suggest except that we are not at this time conceding 6.3 as a proper or a minimum amount that should be set aside for this purpose. We are not conceding that they are entitled to that earning or to set aside that much of the returns for the com-

pany for that purpose.

Mr. Duls: That is just exactly what we are going to show by Mr. Hoag, that that is a proper and correct amount to allow. What I say isn't testimony at all. It is only an effort to explain to Your Honor just what these different things are in rate-making.

Mr. George P. Player, called as a witness for the complainant and after being duly sworn, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

Note.—The experience, qualification, etc. of the witness, George P. Player are set out herein at Pages 991-1002.

I am not an employee of the Bell Telephone Company; I have spent the most of my life fighting them. I mean by that that I was representing the Commissions, and on the opposite side of the fence from them; for the first ten years of my experience in the telephone business, I was with the Independent telephone companies that were in opposition to the Bell companies, and I would not say that I have been fighting them. The time I was with the Commissions I simply carried out the dictates of the Commissions as far as the rules and regulations are concerned and the law,—supervision.

I have made an appraisal of the property constituting the Houston Telephone plant of the Southwestern Telegraph & Telephone Company. With reference to the difference between an appraisal and value, an appraisal is just one method of measuring what there is in

the property,—an appraisal,—to appraise a piece of property
does not necessarily say, does not mean that it represents the
values of that property. In other words it is a measure of the
value; one of the things which we use in determining the value of

property.

I have figured out the economical construction period during which this property might be reconstructed. I went over this plant pretty thoroughly and am rather familiar with construction work of this kind and character. I estimated that it would take at least four years to rebuild this property. That would be the economical construction period of a property of that size. It would be physically impossible to do it in a year or two years or three years. so many things that go into a building of a property of this size or character in the way of preliminary organization and getting the thing started. It is engineering, the fundamental sites of where to put your lines and lines of conduit and everything of that sort, so that in order to do it in an economical way and to get the best results from the experience of the growth of the city in this, or that, or the other direction, and so forth, to take and make a plant spring up as a mushroom would not be economical. You have to take a reasonable length of time for the due consideration of all facts connected with the construction and use, the period of construction that would result in an efficient plant which would reflect economical principals. You would of course be anxious to get your plant into operation as soon as possible so you could begin to receiving returns; that is, that would be good business to do that, but you would not build your plant in a hap-hazard manner hardly, just in

order to secure revenue. You are putting in something that is going to remain in here, this property is a permanent fixture. You do not want it blown down by the first little wind that comes along or something of that sort, and you want to build something that is permanent and so you begin on the sound principle of putting in some-

thing that is worth while.

I have not made an inventory of the Houston Telephone property. I secured from the Engineer of the Company a copy of the inventory showing the quantities of various classes of materials placed in the construction of this property of this plant. The document you hand me is an inventory of the Southwestern Telegraph & Telephone Company, Houston Exchange, Plaintiff's Exhibit No. 13. That is the inventory made by Mr. Hoag and is the one I used. I had a true and correct copy of this inventory in making my appraisal. I made a check of that inventory for the purpose of determining whether or not it was accurate, that is, in order to satisfy myself that the inventory as taken by the company was accurate as inventories go. I selected, or rather just simply pulled out of the great mass of papers fifteen sections of the inventory field notes.

I had better explain that in this way; that when the inventory was taken the Company took a map of the City of Houston, and divided it into sections. Houston is so large that to have taken a single map and made an attempt to spot all the poles on the single map, the job would have been so bulky it could not have been

handled, so the Company elected to cut the map up into sec-

tions and take the field notes relative to the individual sections.

There were sections of underground cables of conduit sections, of aerial cable, pole line, wires and in connection with each of these sections were the sheets showing the size and class of pole, number of cross-arms, number of wires, and the sizes and number of cable guys and all parts of the plant equipment. I did not in any instance with any of these fifteen sections check an entire section. A representative of the City accompanied me during the entire time, together with a representative of the Telephone Company.

By the city there I mean that the City of Houston had a representative go with me in making this check; Mayor Amerman appointed a man to go with me and see that the inventory was practically correct. The name of the man was Mabry of the firm of Ernst & Ernst & Ernst are accountants. Of those fifteen sections each section was checked at least 25 per cent, some as much as 50 per cent of the section and as in other appraisals,—inventories of this character, I found no differences that would make any appreciable difference one way or the other, in favor of the City or in favor of the Company.

I found errors in the inventory. One was where there 2791 was a mistake made by those taking the inventory as on Section No. 2 of the Hadley District. They had shown on that 966 feet of 200-pair cable and it should have been 100-pair cable. I will say this, that the inventory sheets, I haven't one here, had the

different sizes of cables in the columns headed, 25, 50 etc., and they had made a mistake and gotten the number of feet into the 200-pair column instead of the 100-pair. That was a mistake against the City; the next discrepancy was on Section 15 of the Hadley District. I found it short one down guy. Now, in money, I guess that would amount to as much as \$6.00.

"Q. In money, how much would that difference in cable amount to where the mistake was made against the city; you had 966 feet of 200-pair cable which turned out to be one hundred pair; just make an estimate of that?"

Mr. Howard: Aren't you familiar with that enough to approximate it?

"A. Mr. Howard, there are thousands and thousands of figures in appraisals of this kind and I can't remember all. Yes, a difference of about \$425.00."

Mr. Howard: We don't want it exact.

"A. Well, it could have been-yes, about \$425.00."

Yes, I found other discrepancies in the inventory. That down guy that I spoke of, that might have been removed between the time the inventory was taken and the time we made the check.

On the underground cable in Section No. 7 the Company had omitted 966 feet of 200-pair cable, that is, the inventory was short that much. That would approximate,—I do not remember the prices of these different sizes, but it would be about \$500. There was also short 200 feet of four duct conduit. Those errors were against the company and are practically all the errors that I found in the inventory.

"Q. Well, now, did you make your check of this inventory in the same manner that you always make checks of other inventories when you were connected with the Commissions?"

"A. Well, I will say that, that exactly the same method was used in the St. Louis plant; we checked several sections and found them to be virtually correct."

I have seen several hundred inventories compiled and I have checked thirty or forty different ones and the discrepancy for or against the Company is so small that it would not amount to half of one per cent, and the Commissions have seen fit to accept the inventories as being correct. That does not eliminate omissions and contingencies, those things happen. I am speaking of the actual inventory, that is, the way it is made. I satisfied myself that the inventory was as nearly correct as I could get it.

After remaining here in Houston about two weeks going over all this property and making this check, examining the property as to what condition it was in, and so forth, talked to residents of the city, taking into consideration the character of the town, the probability of improvements, etc., taking into consideration

all those things I went back to St. Louis, took the inventory figures, showing the different amounts of different materials in the plant,

and made up my appraisal in the City of St. Louis.

When I was employed by the Southwestern Telephone & Telegraph Company to make this appraisal they did not instruct me as to how they wanted the appraisal made. I was called into the office of the Vice-President of the Company, and he told me that he understood I was free to do work of this character. That they had an appraisal of the plant in Houston; that they wanted an appraisal made up and asked me if I could do the work. I told him I could and he said, "all right, go ahead and see the people at Dallas and get what information you desire relative to it, and go to Houston and do whatever you care to do down there relative to the matter, and when you take your inventory or however you expect to do it, make up your report and submit it to us." I was not instructed to make up my appraisal in any particular way. Mr. Elias, the Vice-President of the company told me to use my own judgment as to how I should make this appraisal.

I will say this, Mr. Frank, that I have made this appraisal just exactly as I have made the appraisal for the Missouri and Oklahoma Commissions, and if I were appointed by the City of Houston to make this same appraisal, they would have gotten the same report, figure for figure, that you have gotten in this instance. It would not have made a bit of difference to me one way

or the other. I had had my appraisal printed.

Mr. J. D. Frank: We desire to offer this Exhibit reading: "A report on appraisal of property of the Southwestern Telegraph & Telephone Company, local telephone plant, Houston, Texas." And in the lower right hand corner: "Telephone and Electrical Service Bureau, St. Louis, Missouri." into evidence as Complainant's Exhibit No. 36.

Said Exhibit marked Exhibit No. 36, Geo. P. Player Witness" is transmitted herewith in Exhibit File."

In all of the appraisals that I have made in the last ten years, it has been my policy and plan, accepted by the two Commissions that I was with, and by the Courts, both the Oklahoma Supreme Court and the Supreme Court of Missouri, to use a five-year average price for materials in estimating property, and this report simply reflects an estimate as to certain classes of telephone property

2795 in place. It has been deemed wise, and some of the best Engineers in the country have adopted the average period of five years for materials; that is, they take five years preceding the hearing and use the average prices during that length of time; that is right. The five-year average prices which I have used here are between the years of 1914 to 1918, inclusive; that will give you the prices of five years for materials. There are several reasons for my using the five years average. During the last ten years I have had the prices of all prices of equipment used in the construction of telephone plants from various manufacturers, and I had all those prices, or nearly all of them, in my office. They seem to be the set of

prices and to use the average of five years, stretched over a period of time when you have high points and you have low points, both in labor and materials, so that in making an estimate of any property I

always considered it fair to use the five-year average prices.

I do not think that I could reproduce this plant at the present time at the figures used by me as the cost of producing this Exchange based on the five-year average price. In my opinion, it would cost to reproduce this Exchange, based on present-day prices, from thirty to forty per cent more, a million six hundred thousand dollars (\$1,600,000.00) more than figured on the five-year period. I would not undertake to reproduce this property here at the figure used by me based on the five-year average; it could not be done. This is just simply one measure to show what materials of this class and character in place might cost.

I have been familiar with the prices of materials for the last fifteen or twenty years, and am familiar with the present prices and cost of materials in a general way. I might qualify that answer by saying that I have talked to the owners of some of the largest

plants operating in the country, not only telephone plants, but, for instance, the Engineer of the United Railway Companies of St. Louis. At the present time the Engineers of the Missouri Public Service Commission are making an appraisal of that property, and have been at work on that for the last nineteen The United Railways Company operates all of the street railway systems in St. Louis and in St. Louis County, and is about a fifty million dollar concern. I do not know as yet what valuation the Engineers will find, but the Engineer for that company, the Engineer for the Union Electric Company, that supplies most of the light and power in St. Louis, the General Manager and Treasurer of the Stromberg Carlson Telephone Manufacturing Company of Rochester, New York, the Sales Manager of the Automatic Electric Company, Chicago, the Engineers of the Missouri Public Service Commission are the people I talked with. I have talked with these people in the past two weeks, and all are of the same opinion; that there will be no reduction in prices, nor will there be any reduction in labor, not only in the next year, but in the next ten years; they do not look for it. Yes, it is my opinion that we will not have any reduction in prices during the time that we have to reconstruct this property, and my opinion is based on the conversations with the other men, that I know are reputable men.

Some of these things, that, in my opinion, will prevent any reduction in prices of materials or reductions in the labor cost in the future cost, or say, during the four-year period of the ten years that

I spoke of are demand on the part of the public which is as good a measuring stick as could be used; the demand for increased facilities for larger office buildings, more modern office buildings, the demand for greater convenience in the mode of travel, has a tendency to keep up the prices. The working man laboring man is getting nearly twice as much today as he got three years ago for any service that he performs, he is riding to work now in a Ford or Dodge, some of them in Hudson cars; they are making

anywhere from ten to twenty dollars a day, and they can have the pleasured that they never had before. They live better in every way, live in better houses, and they are not going to be satisfied to go back to what they were living under, not enjoying, but simply existing three or four years ago. They have got to have more dollars in order to keep up. They are not going to be satisfied with less dollars. All of these things have a tendency to keep the price of materials up, because the manufacturer will have to pay the price that labor demands. Now, then, if labor keeps up, and most assuredly it is going to, then the products of labor are going to be just exactly in proportion.

Investigation in average cases of all prices of manufactured products shows that 55 and 60 per cent of the manufactured article is labor charges, and about 40 per cent raw material charge, that is, raw material prices, and as long as these high wage schedules continue we cannot expect any reduction in the prices of material. There is nothing at the present time which would indicate that there may be a reduction in the prices of labor; to the contrary, there is everything to indicate that there may be an advance. I base that statement on going back to the demand for this, that and the other

thing; the strikes occurring daily, men walking out, and they get back to work at a higher wage schedule than they were getting. There is more money in this country, more gold than there ever has been, and as long as there is an abundant supply of gold you are going to have a cheaper, or rather more expensive

line of production.

Getting back to the prices of material, and my statement that I have been familiar with the prices for the last fifteen or twenty years, or that I have been considering them for that length of time, I can qualify that by saying that, Mr. Frank, that during the construction of the long distance lines from St. Louis to Joplin and Pittsburg, Kansas, I handled every bit of the material that went into the construction of these lines, which was over half a million dollars' worth of materials, that is, I was acting largely in the capacity of assistant purchasing agent; I had to check all the materials, saw the prices and everything of that sort. Then I have acted in a similar capacity with the companies I have been connected with subsequent to that time, materials of all classes and character; then I have had the advantage of having the price lists on all classes of materials from the various manufacturers ever since I have been connected with the State Commissions, and so I may say that I am fairly familiar with the price of materials.

With reference to what has been the history say for the last fifteen years, with reference to the prices of materials, bought to approximately the middle of 1917, beginning at from 1901 to the middle of 1917, there was a gradual increase in the prices of all classes of

material. That is, a gradual upward increase. It is true
that at various times there have been fluctuations in material
prices and they would go down a little bit, but invariably, you
might say, there was a reaction in the market, especially in the min-

eral line, zinc, copper and lead, and when the reaction came after a decrease, these fluctuations, the price went up just a little bit higher than it was before the fluctuation, and the trend price on all classes of material since 1901 up to the middle of 1917 will show a gradual increase, besides the minor fluctuations right up to the middle of 1917, a gradual increase. On the whole that is comparatively even from 1901 to 1917, that is, it is comparatively upgrade. There was no great fluctuation in the price of any particular product that would cause it to jump and go way up; it would just simply be a gradual rise, right straight up to that point, that is, up to the middle of 1917. At the beginning of 1917 this country got into the world war,

At the beginning of 1917 this country got into the world war, and the demand for iron and metal products, especially was so great that it increased the prices of material rapidly, instead of having a gradual rise in price of material, you had a jump anywhere from nine to one hundred and fifty per cent on various classes of material, that is, after the middle of 1917. Then, of course, in the interim, between the middle of 1917 and the first of 1919, there were fluctuations, just the same as you will find during any period, but the prices have remained pretty high, there has been no decrease. In my opinion, the war is responsible for some of the increases in the prices since 1917 but not all of it. Demand has made the increased prices as much as anything else. I would not say that the war brought about this demand, I would not say altogether, because people

are beginning to live, and have been for the last two years, in, you might say a different attitude than they ever lived before; they are living better and want more, the higher wages paid, and everything of that sort, why, has just simply been one of the things to help bring those things about. I thought I indicated that the war prices hit the United States by saying the middle of 1917. The history of the prices of material show- that the sudden jump came along the middle of 1917, in this country, I noticed it especially in my lists from various companies that prices quoted, that there was no appreciable increase in any other than a general increase in any class of products until the middle of 1917, and then the manufacturers, the producers began writing letters, sending out letters please do not ask for quotations, the market is fluctuating so rapidly that we cannot give you anything that is consistent.

In using the five year average basis on 1914 to 1918 inclusive prices, why just take an actual division on the time that I have said, the jump coming in the middle of 1917, I would consider that I had three and one-half years of pre-war prices, perhaps, nine years,—nine months of prices that were gradual rises, and nine months of prices that were high. You could not exactly say, for instance, that they were anything like today, without being being the present

price for it.

In following out the methods that I used before the Commissions I have taken this five year average period because I wanted to be absolutely consistent with this work as compared with the work I

had done in other cases, the work that I have done in the 2801 last ten years, and in order to do that it was necessary for me to use the five years average prices as far as I could obtain them. I thought that it was the thing to do, and so, as I was given you might say, a free rein to go ahead and make an appraisal as I

saw fit, and that's why I saw fit to do it.

From my knowledge of the history of the prices of materials, the present condition of the markets and so on, I do not think that the pre-war level of prices will ever be reached again. As to why I make that statement I would really have to go over what I have already stated, the demand on the part of labor, on the part of the people

generally for modern equipment in every respect.

Neither Mr. Hoag or any other engineers have worked together with me in making this appraisal. As a matter of fact, I heard yesterday, sitting in here the figures that Mr. Topping makes. I do not know as yet what Mr. Hoag's testimony is, and I saw none of his work relative to his appraisal, in fact, we had no conference about any conditions in any way at all on that. I worked entirely separate and independent from the other engineers; my office is in St. Louis in the Wainwright Building, several blocks from the telephone company's offices, and I just simply worked this thing up myself. Topping lives in Kansas City, and Hoag in Dallas.

2802 Cross-examination.

Questions by Mr. Howard:

Appraisal and value are not the same thing. There are a few things there, Mr. Howard if I were going to make an appraisal of any piece of property, take this table for instance, I would appraise it and say it is worth \$60.00, but that doesn't say it is the value of that table. Now, then, as to whether Mr. Topping is right or wrong in placing his appraisal as the value of the plant, whether his theories are right or wrong, I would have a little hesitancy in not wanting to say.

I think that four years would be the economical construction period within which to build this plant. I have never built a plant like this. I have seen one built and built in four years; Oklahoma City was a comparable plant.

"Q. They built it in what time?"

"A. To an operating standpoint where they would attach the business and pay earnings-

"Q. (Interrupting.) Now Mr. Player-"

"A. (Interrupting.) Wait a minute, if you want me to answer

the question, I haven't finished."

"Q. I don't care for any lecture on the proposition. I asked you if you knew of one plant, and you stated one was built in Oklahoma City, now you have answered my question."

Mr. D. A. Frank: Now, if Your Honor please, I want to object to that procedure; throughout this entire proceeding Mr. Howard has refused to let a witness answer a question, he has continuously harrangued with these witnesses, and we want to most

2803 seriously object to any such procedure as that. If his answers are not responsive I think Mr. Howard has the right to make his objection, but I think the witnesses have a right to answer the

questions whenever he propounds them.

Mr. Howard: If the court please I asked him one question, and he has told me Oklahoma City, but I am now asking him when and where he saw a plant built up in a city that already had a growth of one hundred and sixty thousand people, with twenty-seven thousand subscribers attached, when did that occur, Mr. Player?"

"A. They haven't that many subscribers in Oklahoma City." I have never constructed, nor have I ever seen one like that constructed of this magnitude in four years under construction similar to the plant in Houston; never have. I never expect to see one, because the country—. I do not know of any in the history of this country of a telephone plant that has been built in a city of this size,—a plant of this magnitude nor have I ever heard of one being built.

I have not been in the telephone business practically all of my life; My operations have been confined to an area comprising two states, you might say of three states, Missouri, Illinois and Oklahoma, and there are a great many telephone plants in other cities outside of those three states. I have somewhat familiarized myself with things outside of Missouri and Oklahoma, but you know you have a pretty big extensive territory. I keep in mind something of what is going on over the country; we follow as thoroughly as possible

what is going on.

I am merely estimating and trying to conjecture what time it will take to build a plant when I am talking about building a plant that has never been built in a city of this size, and in all human probabilities never will be built but I want to qualify that by saying that it is sound engineering principles to make an estimate as to what length of time it is going to take to do any piece of work; as to how long your plant is going to be under the process of construction before it begins to earn any return, how much longer it is going to take to attach a certain number of subscribers; how much longer it will take to attach more subscribers, and then taking it up to the fourth year, the end of the fourth year period as to what it is going to do at that time. It is sound thinking and principles to make a set up of that kind. If you want to call it conjecture all right, but I am going to call it sound engineering principles.

"Q. That will be all right, we don't get very near together on that. Now, if a plant had been built under anything like similar conditions and reasonably managed and it took a certain amount of time to build it, you could make pretty fair conclusion from that to how long

it would take to do the job?

"A. If we were going to take any sized plant and try to build it today, we would know about when the plant would be completed, when it began operating and we were doing a pretty good business, as to just how long it would take to do that work, just how much it would cost, and how much it would cost for each class of the business attached to that plant.

2805 "Q. Mr. Player, it being estimated by two engineers that have had a good deal of experience in telephone work, they stated it could be built in a certain time, and you, another competent engineer, of a great deal of experience in telephone work, say it will take one third longer to do the work, that is evidence of the fact, that it is a good deal of conjecture and also a matter of a very great deal of latitude in which they may differ"?

(Objection made by counsel for Complainant, and afterwards withdrawn".)

"Q. Where other engineers assuming equal equipment state a time that it will take to build it, and you come along and state a time one-third longer, does that suggest anything to your mind

as to the accuracy of your conjecture on these matters?"

"A. No, it don't suggest a thing except this: that I am making one estimate, someone else is making another, and someone an-You say I am one-third longer than the other two, and it might look as though the other two were right, they bring two This is just simply a matter of estimate.

It is my best judgment.

I am not somewhat of a political economist; I am just an ordinary engineer. I haven't written any book or anything of that sort on the subject of economics.

(By Counsel for Complainant.)

I have not written any books on storage batteries.

(By Counsel for Defendants.)

I feel very thoroughly assured that these prices are not coming down.

"Q. You say that the engineers for public utilities over the country would advocate that fact in regulating these rates, basing their values on it, the property values"?

"A. You have used the wrong word, I didn't say advocating it,

I said it was their best judgment, their best opinion"

They might advocate a certain thing and express themselves about a certain thing, and it would be two different things, absolutely. I wouldn't want to express my opinion on it as to whether or not it is the same thing. The engineers are still in the employ of the Public Service Commission; the Commission doesn't control those employees that way.

I say that labor has advanced generally since 1914 fully 50%; some classes may have advanced as much as 100%, but I am speaking generally. When I stated that labor now would never go down because they have got accustomed to those luxuries of life, such as Dodges and Hudson automobiles and a few little things like that, I just mention that to show what the laboring man is enjoying now. He is enjoying better living facilities and everything owing to his increased wages than he ever did before. I did not make

the further statement that his wages now would be only about a third, that his dollar had shrunken down to where it only had a

third of the purchasing power; you misunderstood me. I said it would buy about 30% less, in other words it is worth about 30 cents now, where three years ago it was worth dollar. know things have gone pretty high, so that then insofar as the enjoyment of better times and things like that is concerned, the laboring man is not getting much more than he could in 1914. He is getting more dollars; he has got more dollars in proportion to the shrinkage. I have no more accurate data on that than the wages that we know are paid different classes of labor.

"Q. You don't know in effect what the general wage average increase is, do you"? You have never figured out and don't know"?
"A. Now, let me give you an example."

"Q. No, I am not asking for an example. I am asking you the general average wage increase. You can figure out plenty of examples. I can cite you to a whole lot where they have probably gone up over 100%. I am asking you if you have merely if you have ever brought your mind to bear upon this question, because you have undertaken to tell us about the underlying causes?"

"A. Yes, sir." I have never made a study of this proposition to the extent of determining the average general increase throughout the country in labor cost, more than examining the wages paid the different companies,-by different companies. I find in some places they may have raised them 50%, some places, maybe 70%, and some places 30, but I have never acquainted myself with the general average all over the country. Yes, sir, I have acquainted

myself with the general average of the necessaries of life 2808 of the things ordinarily purchased by labor, I know pretty

well what those things are.

Yes, sir, I have put in some particular time to determine what the general increase in foodstuffs and clothing and shoes and school books and things like that has been; I know just exactly what they have been.

"Q. Well, what is it? What is the general average"?

You mean, what has been the increase?"

"Q. Yes?"

"A. Well, shoes have increased-

"Q. (Interrupting.) No, I am not talking about shoes-"A. (Continuing:) All right, you asked me about shoes."

"Q. Yes, I asked you for the general average, and I asked you if you had ever-it won't do us any good now to pick out any isolated cases of shoes and things of that kind. I am asking you now as a man that is undertaking to enlighten us upon the effect of your observation upon the world's future, and the business world's future, and the business world, what study you have made and whether your study carried you to the extent that you have determined approximately the general average increase in the cost of living."

"A. You asked me the direct question if the cost of shoes, school-

books, etc. had increased."

"Q. Well, we all know that. Any school boy in the land knows that. What I am trying to get at, I am trying to test your information to see how far we should rely upon it in fixing this rate. Now, you are undertaking to tell us that laboring men enjoy so much better conditions than they used to, they have got in touch with high life, they are not going back

to the hard days"?

"A. Now let me answer the question, please sir."

"Q. All right".

-. I have lived in the communities for several years where I have been associated with the farmers, the merchants, the poorer classes of people, the laboring classes of people, and people in all walks of life. I know them personally. In the war work, and in other classes of work, it has come under my observation as to the way they live, what they produce, what their children wear, what their wives and themselves wear, that is the different kinds of people that you meet, what kind of houses they live in, whether they ride on street cars, or in automobiles, and I know from being with those people, the farmers for instance, they have increased the kinds of machinery they use, they have discarded the horse and the plow and are using tractors, the laboring man is wearing better clothes, and his children are wearing better clothes, he lives in a better house, and it is all due to the fact that he is getting more money. It is true that he is having to pay more money for the products of life, but he is getting more money with which to pay for those products.

My knowledge that I have given here is certainly based merely upon the scope of my personal observations, and in addition to that, I might say, that I have talked with other people that are familiar with the same thing, and they agree.

I have never heard of what they term "the vicious circle". You don't hear it talked. You can take up any newspaper or any maga-

zine and read it, it is all printed.

"Q. Well, it is the same thing, you get the idea, whether a man is speaking or writing, it is evident that it has been conveyed to you, the idea of this vicious circle, about the cost of living coming up to meet wages, and then wages going up to meet the cost of high living?"

"A. I wouldn't term it vicious, I think it is just the natural trend."
Yes, I think it is just the natural trend; the trends of wages, and

materials and all has been gradual for the last twenty years.

"Q. Now, all of this has been based merely upon what you observed, the same as any other man observes on the street car, or do you come here to give us a special knowledge concerning those things, Mr. Player"?

"A. Why, my general observation, my experience in the busi-

"Q. (Interrupting.) Just as any other man, Mr. Frank, or myself?"

"A. That had investigated those kind of things, that had really paid any attention to them, yes,"

"Q. So you don't base it upon any figures and you are not telling us now that you have made a study, so that you can give us the general average of the cost of living or the general average

of the cost of labor for the last 25 years?" 2811 "A. I have not reduced it to percentages."

"Q. You are talking in generalities?

"A. I am talking of general observation, yes."

No sir, I did not know that when the coal trouble was up over in England after a rise in wages, that there was an investigation made. and it was found that the cost in labor, that it was being contended that the cost of labor was the reason why the coal was laid down at the manufacturer at such an enormously increased price and that an investigation of that matter disclosed the fact that the added cost of labor was but a very insignificant part of the added profit that the manufacurers had to pay. I have never followed up those things to any great extent in England, nor have I made any specific investigation in the United States. Laboring people have to have coal generally.

"Q. Well, now, tell us any particular thing where you have given it any-have followed up any scientific or have familiarized yourself with any investigation along any particular line of prod-

ucts?"

"A. Why, with the investigation of all of the materials and equip-

ment that are contained in this report, I am."

"Q. Oh, you mean, you have gone through catalogs and found that the prices of these materials that are necessary to reproduce this plant, is that what I understand you?"
"A. You can call it catalog, price lists."

2812Yes, sir, I can tell you some of the underlying principles of what the coal miners are striking about, they want more money, and want better living conditions; I do not know of any

other thing.

"Q. Well, now, to be honest about it, to get right down to it, you are a valuation engineer that devotes most of your time to valuing these properties, and taking them out and making an inventory and going to the catalogs and applying the prices and you don't and haven't and wouldn't pretend to have any special knowledge concerning the effect of prices in the future"?

"A. Yes, sir, I have."

- "Q. Just as any ordinary man upon the streets that comes in contact with and talks with his fellow men has?"
- "A. No, sir, in valuing these properties and making his appraisal-

"Q. But, I mean-

"A. (Interrupting.) Wait a minute, let me answer your ques-

"Q. I am talking about your investigation that you have made in these collateral matters that control prices?"

"A. You want me to answer that question"?

"Q. Yes, sir, I would be glad if you would answer that particular question."

"A. I have made the investigation, I know this, that the demand for materials of all classes and character that go into telephone plants, electrical plants, water and gas plants, have gone up in price, are

what are called high prices at the present time, and that it is the general opinion of men well-versed in all lines of business

that the prices are going to even go higher."

"Q. It is."

"A. And naturally I am interested in knowing that subject because I may be making an appraisal of another plant a year from now, and I want to know what the prices are going to be there."

"Q. Did you happen to observe the statement made by the suc-

cessor of Mr. Hoover,-you know who Mr. Hoover is"?

"A. Yes, sir."

"Q. You know that he has recently retired and a successor has followed him?"

"Mr. D. A. Frank: Who is his successor?"

"Mr. Howard: I don't know, I have read his name, but I don't recall it, but you know that he has recently made the statement that prices, or the cost of living would in all probability reduce at least 25% by the first of June?"

"A. No, sir, I didn't know that. I don't know, that his opinion, his personal opinion on that proposition is worth any more than

mine".

"Q. Now, that is what we are getting at, all that you are volunteering now is just personal opinion, and these men who told you, you are basing it upon their opinions, aren't you? Why not take Mr. Hoover's opinion?"

"A. We may not agree upon the same principles."

Yes, sir, I say that there has been a natural rise in prices for fifteen years. I have been familiar with prices from 1901

up to the middle of '17.

What I call gradual is starting out with a dollar in 1901, in each month it raises one cent, one cent, one cent, right up to the present time, that is gradual. I am not telling you that the price trend from the year 1901 to the middle of 1917 was just that way until it got up to the middle of 1917; I did not say that. I said at times, there are fluctuations in prices of all due largely to the market. I have a diagram that I prepared myself some years ago on poles; I just happened to have it. I want to just show you this. It shows the trend. It shows the fluctuations down and up, and it shows the trend, a gradual increase. I wanted to just show it to Mr. Howard as an illustration.

"Q. Well, this is on poles, it is rather confusing here, this particular diagram to me. Let's take the 25-foot pole 6 inches at the

top."

"A. I would have to introduce this then if you want it."

(By Mr. D. A. Frank:)

"A. Yes, sir."

[&]quot;Q. You can make copies of it then, can't you?"

(By Mr. Howard:)

"Q. Well, just let it go. I won't ask any further about that, Mr. Player, but I would be glad if you have the data, not alone upon poles, but upon other things that go into this thing, I think you are probably mistaken in your proposition that there wasn't a very considerable rise, that the rise was not abrupt

then, I think you will find that a very marked rise began about 1916, and that during 1917, it may have reached about the high point, but I will be glad if you will get us that data

if you can, if you have got anything to show it."

"A. I can prepare that for you if you desire it."

"Q. I would like to know. Well, now, Mr. Player, as I understand your inventory, or your appraisal, you take the year 1914, and take five years back from 1915, and you get what you call "the average prices"?

"A. Well, sir, I used the years 1914, '15, '16, '17 and '18. That

is five years."

I took the average prices on the classes of material that went into this plant for that period of time, that is, the prices that prevailed during those four years, and divided them by five. I cannot tell you how much that would be in advance of the prices had I valued it upon the 1914 valuation or prices; I have never figured it any way accurately. Well, for instance, I can do this for you right now. I have the appraisal with me that I made of the St. Louis plant, and I can compare the pole of any size. I will give you enough items to give you a comparison. Now, this appraisal in St. Louis was dated December 31, 1913. That was right at the beginning of 1914. Now, if you will turn to page 20 of my appraisal, that is Northern White Cedar Poles, what are known as classification poles, and it seems to be one of the items of discussion.

Take this same pole, 25, 6 inches at the top, and it is designated as 25-foot Class C, that would be approximately

a 6 inch top. A 25-foot Class C Pole was put into the St. Louis case at \$5.18 as the unit cost, and this figure is \$8.21. The percentage

there is about 60%.

2816

Poles are one of the major items in a telephone plant of this kind. All right I will give you another major item, go on down that page to a 30-foot Class C Pole; the poles would carry the same relative price 30-foot all the way through. I will take some other character of equipment, turn to page 39; that is underground cable, and take the last item there of 400-pair cables; the unit cost of 400-pair cable in this appraisal today is \$1.7459 cents per foot. Now, I haven't a comparable figure with that, Mr. Howard, because that is pure lead sheath cable, and they didn't have any of it in St. Louis. If you will turn to the next page, please sir, page 40, and take the other item on that, 400-pair cable; the item there is \$1.1834 per foot; the price used in St. Louis was 92.49 cents, just about the same general increase. That would be about 30%.

about the same general increase. That would be about 30%.

As to the next large item that I consider important you can take the underground conduit, page 32. Let me find a comparable figure

with that. Run down the column there, Mr. Howard. This is on page 32, until you come to 11 ducts—four wide; the unit used in this instance is 2.1308 per duct foot,—per trench foot. In St. Louis, the comparable figure was \$1.9080.

The central office equipment is not comparable to Houston. This is prettly nearly what would be termed a "cable plant." St. 2817 Louis had a great deal of aerial wire at the time we made

this appraisal.

There is not a good deal of aerial work in this plant now; it is a very small item in this plant. This plant is an aerial and cable and

underground, very little open wire.

There are no other large items that I think of in the St. Louis plant that I could compare to this, that is, they have approximately the same class of buildings, and those kind of things, but not exactly the same size.

I have not said that the value I have adopted here and applied to my inventory is perhaps 30% less than the value to reproduce it now; I mean the estimate of reproducing certain property. What I testified to this morning that it would cost about 30% more at the

present day.

I could not tell you what the general increase of my prices are over the prices in 1914; I never figured that out no more than to make this comparison; I had no occasion to go back to that at all, you know, and it didn't have any bearing. I have used just identically the same principles as used by engineers, for instance, Sloan, Huddle, Fuestel & Freeman, Hagenah and Lamb.

In percentages the cost in this plant in the way I have reproduced it here, and would be above the same method in 1914. I can give you my best judgment on that, I would say about 40%,—maybe 30 to 40%. I estimated the price of reconstruction based on an average price over five years, and that is what this business

2818 is here. I say now that there was a general line of increase in material prices from 1901 to the middle of 1917, and that was fairly regular. That same per cent of increase applies practically to the cost of labor during those years. You will find this, Your Honor, that no matter what the material prices are, that the material prices will be just a little bit higher than the labor prices, no matter what time you select them. For instance it has been shown, time and again, that the percentage the labor cost bears to the material cost, the years '14, '15, '16, '17, '18 and '19, that the labor prices are just a little bit lower than the material prices, that is, the percentage they bear, the per cent of labor to material is practically constant.

"Q. Just a moment you make these pictures like our friend Topping and draw lines?"

"A. The curves, yes, sir."

[&]quot;Q. You see when you have simple minded people that are not mathematical folks, you have to draw pictures like you would for a child, to make things plain. Now, suppose you—you seem to be an obliging gentleman, you do this for me in a general way, you understand I don't want to lay any burden on you, you project the line of

cost on this proposition according to the general average established from 1901 to 1917, just project that line as if there had been no perpendicular rise in prices in 1917."

"Mr. D. A. Frank: That is known as the trend price."

"A. That is known as the "trend price," sir."

2819 "Q. Thank you, well, I didn't know what it was known as. I just figured that. Well, then, just to help me understand it in my simple way then, you indicate your reproduction price based on your five year item. Then indicate for me, as best you can in a general way the reproduction price as it is today, would be on prices as of today, and then the prices on the general trend of it, just do it in a general way, and make a picture of it so I can understand it?"

"A. Yes, sir."

I can fix that up for you.

(By Mr. D. A. Frank:)

"Q. I want to ask you one question: Mr. Howard asked you about whether or not the food prices were not coming down. I will ask you to read one sentence from the Associated Press from Wahington in the Galveston News published on the front page of the paper."

"Mr. Howard: You are offering the paper in evidence?"

"Mr. D. A. Frank: Now, I am asking him to read one sentence published in the Galveston News today."

"A. Washington, Jan. 22. Twenty-two articles of food reached record prices in December, according to a report issued today by the bureau of labor statistics."

Redirect examination.

Questions by Mr. J. D. Frank:

"Q. Mr. Player, making a comparison of the prices that you have used in this case, and the prices that you have used in the St. Louis case in December, 1913, you say that the poles, or rather the prices that you had used on poles in this case are approximately 60% higher than the prices that you used at that time, that underground cable is approximately 30% higher in this appraisal than in the one that was made in 1913. Can you explain why the poles are so much higher than the underground cable, and other classes of equipment?"

other classes of equipment?"

"A. Off-hand, Mr. Frank, I don't know whether I could do that, except in this way, there has been a general increase in the installation of all classes of plant, the demand for poles has been a great

deal greater than has been the demand for cable.'

I know something about the supply of poles; it is very limited. The fact of the matter is that today pole people are very much worried as to where they are going to get their supply of poles within the next few years.

As to whether or not it is a fact, that during the ten years that I was connected with the Public Service Commission, that the Commissions and the courts relied on my judgment with reference to material prices, and the values of the properties which I appraised, I do not like to talk about myself, but both the Oklahoma Commission and the Missouri Commission never questioned my judgment on these things because I did what was absolutely fair in all these

things. I didn't put it up any more for the Commission than

2821 I did for the people.

In the lower left hand corner of that page is a note, "C. N." denotes cost new; C. L. D. denotes cost less depreciation. I

mean by that reproduction.

The first column represents my estimate or appraisal of the different classes of property that I found in Houston, using a five year average price for materials and labor, and the second column "C. L. D." denotes the relative cost or appraisal of that property after the conditions per cent, or depreciation had been deducted. The first column shows the reproduction cost new based on my five year average prices, and the second column represents the reproduction cost new, less depreciation based on my five year average prices; that is correct.

As to how I determine the condition of this property, or per cent condition on the various items on property, in making my check of this property, while making the field check, I took particular pains to inspect all of the property that came under my observation, such as poles, wire cable, cable boxes, cross arms and any other equipment that was used in the construction of the plant. After I had finished the check of 15 sections of the plant, I took a machine and drove over practically the entire plant. I stopped in different places, and got out and examined the poles, cable and wire, and made notes as to the general condition.

With reference to the kind of examination of the pole plant for the purpose of retermining the present condition of that property, I will tell you just how I did. In examining a pole, we had a

2822 pick and shovel with us, and I scraped the dirt away from around the bottom of the pole, and took a long sharp knife that I have used for years for that purpose, and jammed it into the pole to see if there was rot or decay there, and in several instances climbed the pole, looked at the top to see if the top had rotted, if there was any chance for being watersoaked, the heart (as we say) rotted out of the pole and just a shell there. The same is true of cross-arms. I examined the cross-arms and I have inspected so much of this kind of property that I know pretty well just the shape that it is in by looking at it.

With reference as to whether or not that is the method usually employed by engineers in determining the per cent condition of the physical property of the telephone plant, that is the only way that the condition can be determined, that is, to go and see the

property.

You cannot take life tables and tell anything about the condition of the property; life tables do not mean anything. A life table is

drawn up showing presumably the length of time any particular plant will last, kind of plant. I have such a table on the back page of this report, but it does not reflect in any sense of the word the age of the property as it stands nor does it reflect anything relative to the value of the property. You cannot take a life table and from that life table find out the condition of it. A building will last fifty years, we will say, that has been built ten years. One-fifth of the

building is gone, if you had to use a life table where as a matter of fact if you make an inspection of that building, you will find that it is practically as good as new for all in-

tents and purposes.

The use of a life table is for the purpose of determining what amount of money or what per cent of money should be set aside in order to take care of the natural rust, rot, decay and depreciation and replacement of the plant during the estimated life, and obsolescence; so that when you examine it, the building might be in almost perfect condition, and still you might have a reserve to take care of it when it comes down,—that is true. In other words, in your reserve fund for depreciation you would have to take care of something more than mere rot, rust and decay; if you didn't have something more than what would actually take care of the business, of rust, rot and decay, why, you should be in a mighty bad fix.

I have never known of a rate case in any place where they determine the per cent condition of the property in any manner other than the manner in which I have determined it in this case. It is not only my opinion, but is the opinion of engineers in general, that this is the only manner in which you can determine the per

cent condition of the physical property.

I said that I testified in something like one hundred cases, and in every case I have been in there was an expert on the other side who had determined the per cent condition of the property that was in question and they all determined it in the manner in which

the books of any concern that had a piece of property and and had bought it in 1910, and they tell me that that property would last for twenty years, and from those books make a deduction of ten years or 50% of its value because the property was 50% or one-half of its age, approximate age, lapsed, gone, the property. I might put such a figure on it, 50%, and go out and look for that property, and they would absolutely have taken it down and destroyed it or burned it. I could not tell whether the property was there unless I would go and see it. I might go and look at it and find that instead of its life being half gone, that it was practically new and the book would be no indication that the life was half gone. That is especially true where they are replacing the property from time to time; it necessarily has to be. In a plant of this magnitude I know from my experience in the business that those replacements and changes are occuried daily.

Cross-examination.

Questions by Mr. W. J. Howard:

In by appraisal I carry forward the per cent condition to the different items and elements of the plant. I have no total prepared on the general average per cent condition on the whole plant; I just

depreciate each one separately, but for your information, I just made this claculation that the plant as a whole accord-

ing to my figures, is in about 88.7% condition. I first take the land and do not depreciate that any. Central Office equipment is on page 9, I take buildings and I applied to some 70%, and some 80 and one 85. I depreciated those as I went along. In other words that is the condition per cent that in my judgment those buildings were in.

Yes, sir, it is true that I think per cent condition relates only to the physical condition of the plant as compared to its new condition. For instance, you take the warehouse here, \$300.00, and I say its per cent condition is 70%, which would make it cost less the physical depreciation \$210.00. That is set aside for the purpose of taking care of things that bring about a depreciation of the physical condition; not that I know of. This is set aside to take care of the obsolescence, that all comes in, that is all under the term "Obsolescence and Inadequacy."

"Q. And that in order is added to physical deterioration when you go to try to determine what that reserve should be, or the annual annuity that makes up that reserve, you consider first, the deterioration in the physical plant, that is how to deteriorate from new down to a certain per cent condition on account of rust, wear and

decay, things like that?"

"A. Mr. Howard, don't confuse --- "

"Q. (Interrupting.) I am not confused at all about it."

"A. (Interrupting.) Wait."

"Q. (Continuing:) I am not confused at all about it. I am just trying to get your idea, I know exactly that you set up a definite and certain thing as per cent condition?"

"A. Yes sir."

It is true that there is wear and decay that will bring it down to a certain physical condition; I know that is going to happen.

I set aside a depreciation reserve to keep that property at 100 cents on the dollar, that is what I set it aside for. Obsolescence and inadequacy are the things that are going to combine or operate to prevent it remaining at 100 per cent on the dollar; rust, rot and decay.

"Q. Yes sir, then you combine the two things there, in setting up your depreciation reserve, you add one thing to the other, and

combine the two and aim to take care of those elements?"

"A. I aim to keep at at 100 per cent."
"Q. 100 per cent of the value then?"
"A. But I can't do it continually."

"Q. Oh, I understand you can't, you can't do it continually be-

cause you put a wire up here on these poles and it starts to wearing out and rusting out, you don't take that away, you don't repair it until necessary, you don't replace it until it becomes necessary, but if a string of wire out there becomes inadequate, you have to go into the ground with it, you don't absolutely make that change until it is necessary, but on the matter of percentages, as the years go on,

all that loss is accruing from all these causes, isn't it, and its past experience shows that it accrues and accumulates with 2827 something like regularity?"

"A. We are setting aside our depreciation reserve to take care

of it."

But then we must not confuse condition of the property at the present time with the amount of depreciation necessary to set aside, to take care of the property; we are not confusing that at all.

"Q. We are taking care of all these things, we are taking care of the things that reduce this warehouse for instance from \$300,00 to

\$210.00.

"A. That's the condition."

"Q. Yes, that is the condition."

"A. Now, let me explain that just a minute."
"Q. Yes."
"A. That is the condition that the warehouse is according to my judgment at the present time."

"Q. Yes."
"A. But I am going to have to set aside enough in my depreciation reserve fund to take care of that warehouse in the sume of **\$**300.00"

"Q. Surely, you are going to have to take care-set aside-

"A. (Interrupting.) The condition has nothing to do-the per cent condition has nothing to do with the amount that I am going to set aside."

"Q. It has this to do, though, it is regularly set aside to take care and provide for that thing that wears your plant out,

doesn't it, to keep your plant up to the 100% value?"

"A. Let me answer this that way, if I were going to do what you asked me to do, I wouldn't set it aside on the \$300, but I would set it aside to take care of the \$20."

"Q. But you don't change your annuity?"

"A. I am taking care of my property dollar for dollar."

"Q. That is, it could be done that way but assuming that your plant decreases 10% the first year, then the next year you don't apply your percentage to the 90% but you apply it to the 100%?" "A. I can give you an illustration that might help you".

"Q. I am not looking for help, I am looking to get the correct

view before this Master.

"A. As a concrete example, Mr. Howard, I testified in the Federal Court in the case of Western Union Telegraph Company vs. M. E. Trapp, the State Auditor of Oklahoma, as to the value of the Western Union Telegraph Company's property. That was in 1909, and that same question came up, of a line that was 10 miles long that would last ten years, that the first year it had depreciated 10%, should the rate for the message be reduced from ten cents to 9 cents.

"Q. Well, now, I am not contending that at all. That is where you don't get my idea. I am contending, you set up an annuity, that when it is set up from experience, and from the best knowledge you can get, you figure that you have to apply the annuity

each year to the original value in order to get the proper fund at the end of the time to take care of the plant, to take care of the investment. Now, the only thing that I am talking about, I am getting down to depreciation, when you come to apply your depreciation, when you go to value the property, of course you say this is cost, but what we are interested in finally is value, the cost, or how to get it, its value. Now, we'll take this warehouse for instance, it is simple and only a small thing, you have depreciated here?

"A, 70% condition."

"Q. Yes, 70% condition, valued at \$210.00."
"A. Yes sir."

"Q. Well, why not, if value is the thing we want and your warehouse that is in only 70% physical condition and thereby reduced to \$210.00 is reduced further in value by the fact that it is not worth half as much as it would be if it were more conveniently located, why don't you take that reduced value out of the plant before you go to apply the rate to it?"

"A. Mr. Howard, you are confusing that. I made a valuation of

this plant-"

"Q. Now, then, getting right back here's my view bout it, Mr. Player, and I want to see if it is not correct. I think you 2830 will get to looking at this thing through the old way and that is the way to do it."

"A. No, sir, we are using absolutely modern, sound engineering

principles.

"Q. Well, now let's see if they are sound. You know, a layman can get some grasp on these things. You have in trying to keep your property and your investment up to 100%, have set aside an annuity each year based upon the full investment cost, full investment price, investment value, you understand you are going to do that and going to disregard the depreciation principle each year. We are going to take the original investment all the way through and apply an annuity to it for the purpose of creating a certain thing, and you have already told us that the purpose you are trying to serve and the things that you are deterioration in physical condition plus obsolescence and inadequacy. Then you are setting aside a reserve for this very purpose. Then when you come to value this property to determine its value, why don't you deduct

both of these elements if they are both present in arriving at your net value?"

"A. I get your question. You want me to consider as to whether or not this warehouse is in a good location."

"Q. Yes, sir."

"A. And will serve its purpose."

"Q. Yes, sir."
"A. Three or four years from now just the same as it is doing now."

2831 "Q. No, I am assuming-"

"A. (Interrupting.) Now, wait a minute. In case it wouldn't, why I shouldn't include an element of inadequacy. That has not been taken into consideration and is not the correct method to apply in an appraisal of this character."

"Mr. D. A. Frank (interposing): It doen't exist."

"A. (continued). It doesn't exist. If the warehouse were not suitably located, the company would immediately locate its warehouse where it was suitable, where it would be most economical to

maintain it and bring the material to it."

"Q. And when they did that and built a new warehouse, then all these elements would disappear, wouldn't they, not only the obsolescence or the inadequacy, but also the physical conditions, the deteriorated physical per cent condition."

"A. Oh, no; no, sir."

"Q. All right now. I just wanted to draw your attention to this thing to give it some thought notwithstanding it might not strike your techincal mind as proper. When you go ahead to value this entire plant, take this telephone plant, for instance-

"Mr. Duls: You are talking about "value" now; not "cost".

"Mr. Howard: Well, "value" is the thing we are after; you say we are not after "cost".

2832 "Mr. Duls: That's right."

"Q. You reproduce this telephone plant now, and you reproduce it new, out of the best material, you reproduce it exactly as it stands here, serving the public now. Then in order to get one element, one of the indications of value, you call it "cost less depreciation." Then after you get this plant reconstructed and reproduced exactly along the same lines, a good construction engineer comes along and absolutely convinces you that the conduits are not running where they should run in order to best serve the public, and to be more economical and get the best service out of them, that the plant is a manually operated plant, it being demonstrated that the automatic will be the thing to be installed from a proper economical standpoint, and you have got an inadequate and obsolete and back number plant, instead of a modern one, would you depreciate that plant any on account of its obsolescence-

"Mr. D. A. Frank: Why, I object to the question because there is no foundation in this case for any such question. There is not any evidence here whatever of inadequacy or obsolescence. On the contrary, all the evidence shows that the plant is up to date, in fine condition, and is the same character of plant that is used in the best

cities of the United States today."

"Mr. Howard: There is evidence in this record already 2833 upon the question of obsolescence and there will be more." "Mr. D. A. Frank: There are some statements here by Counsel."

"Mr. Howard: No, sir."

"The Master: I will try to discriminate and not try to give any weight to improper testimony."

"Mr. Howard: Why, if it is improper, I guess Your Honor will

disregard it."

"Q. Now, then, your method of reasoning will lead you right to that conclusion, won't it, Mr. Player, that once you get a plant which is reproduced just along the very same lines that this plant is reproduced and we'll assume further that after it is constructed or is constructed out of material that wasn't entirely new, and that it lacks 100% of being in physical condition, then to get the value of that plant reproduced new, you take off you say the physical-

"A. (Interposing). Deterioration."
"Q. Deterioration. You take that off to get its value. am asking you why if the plant is not a modern plant but if built along proper engineering lines it would be more serviceable to the people, its conduits would be placed in proper shape, it would have

the most modern equipment in it, why, you won't also depre-2834 ciate it on account of that inadequacy and obsolescence that's in it?"

"Mr. D. A. Frank: I don't see how the witness can answer a question of that kind."

"Mr. Howard: Well, he started to answer it. He must have a better vision than you have.
"The Master: Well, do the best you can on it, Mr. Player."

"A. I beg your pardon."

"The Master: Go ahead and answer it if you can"

"A. I don't believe I can answer it."

"Mr. Howard: He would have answered it if Mr. Frank hadn't said that he couldn't."

"Mr. D. A. Frank: In explanation of it, I will say this. I think I can shorten this conversation a little bit. Counsel is assuming a condition that is impossible, that is, if a man builds a plant the size of this plant in Houston and as soon as he gets it completed he has got a plant that is made out of poor material, poorly engineered, inadequate, obsolescent, about ready to fall down, and not placed at the right position. Now, whether or not he would take that into consideration in looking at it, if it were such a plant as that a man would be an idiot that wouldn't say that the plant was no account, a plant of that kind. But that isn't the kind of plant they

2835 have got here. If his assumption had any basis of fact, no two reasonable minds would fail to agree on that proposition. Why didn't he ask him to assume something that is within the line

of reason. I don't see how he can expect the witness to answer such

a long question of that kind."

"Mr. Howard: Why, Mr. Player didn't ask for protestion at all until you told him he couldn't answer it. I assume that a fairly well educated man can grasp a fairly involved question."

"Mr. D. A. Frank: Well, a man would have to have a crazy-

quilt mind to grasp some of yours."

- "Q. What do you mean by this statement in your report on page 1, "Experience has shown that to duplicate an installation of this character, (that is, Central Office Equipment,) it would cost, irrespective of advanced prices, a great deal larger sum than was originally paid. This is caused by certain types of equipment used having become obsolete, which would require the factory constructing special machinery to reproduce the equipment, such as relays, coils, keys, etc." Now, you are assuming here, yourself, I believe, that there is a great deal of obsolete equipment in this plant. It is there, you can't laugh it out."
- "Mr. D. A. Frank: You just simply can't understand the statement, that is all."

"A. Mr. Howard, I mean just this by that, that you can inventory and large installation in the country any place. You 2836 will find that improvement has been made in certain

classes of equipment, that the manufacturer has changed his machinery to conform to the improvement. While the equipment in use is just as efficient for its particular purpose, used in a particular circuit, used for a proper thing, as the new equipment would be, at the same time, you would have to reconstruct new machinery in order to reproduce the same equipment, and therefore it would cost a great deal more money, it would cost this money, more money today by far to have the Western Electric Company reproduce some of its equipment here than it would be worth while paying."

"Q. That is just what I thought, that is just what I thought, and I think there is a lot in this plant. Now, then, they have got a lot

of this obsolete-"

"A. (Interrupting). No sir."

"Q. No sir, it is not obsolete in the sense that you have absolutely junked it, but an accruing obsolescence there, isn't there?"

"A. No sir, not in the sense that you mean it, not in the sense that you mean it. You mean in the way of becoming useless?"

There is nothing of that sort in this plant; not becoming less useful, not for the purpose for which it is being used.

As an engineer if I were going to reproduce that plant just from economical principles I would put in the newest equipment that the market would afford, and doing that you would vary from the model that we have here in this, that there's some types of equipment that are no longer made that give just as good service as those that are made, but it has been found more economical to improve them. It has not been found that you could put in better equipment for less money than some of the equipment that they

have got here now. I did not say better equipment; I did not say that. Here's the point, in this state of high prices where everybody is trying to conserve, make efficient materials and equipment as it is possible to do under prevailing prices, the manufacturers of all classes of equipment, not only of telephone, but of electrical, even down to the automobile, are making it as good as they can at the least expense possible, so that it will render the service for which it is intended, and that is where all this improvement comes in. I am trying to be honest.

No sir, I will not admit that there are certain parts of this plant that are not as modern as they should be, and if they were reconstructed now they could be eliminated and should be eliminated with regard to proper engineering,—I won't admit that. I absolutely contend that this plant is constructed and there is now in it no element of obsolescence or inadquacy as it stands here today; you are

correct about that. This is one of the most economically constructed, best constructed plants in the United States.

"Q. Mr. Player, you take in a city where the population seems to have a tendency out in one direction where the residence district and thickly populated district seems to be tending in a certain direction, and even the business portion seemed to be 15 years ago, seemed to have centered around a certain point, and it develops that very thickly populated growing additions have been laid out in just the opposite direction from what was then in mind, and it develops that the growth of the business district has changed quite radically from what was in mind would you say that that wouldn't affect the original engineering of the plant, I mean in regard to its adequacy, not in regard to the physical engineering at the time the plant was put in in regard to it having been located in the right place for the service today?"

"A. Mr. Howard, these things frequently occur that mistakes are made in fundamental plans in engineering, in all lines of business, as to getting a wrong building some place for a particular purpose.

Now, I want to cite you a concrete illustration of that."

2839 In the city of St. Louis when we made the appraisal of that plant there, we eliminated one of the finest buildings that the company had. I want to take this up in detail because it is just in line with what you are asking. The Euclid Exchange Building in St. Louis was built at the cost of-I wanted to get the exact location of it if I could. Well, anyhow this building at a cost of about \$45,000.00 to the company was placed in a location where it was thought that the town was going to grow and become thickly populated in a residence district. Before they could get all of the equipment installed in that building, the growth of the town proved conclusively that the building was in the wrong place and that building had to be abandoned absolutely. That illustrates what you said. not through any particular misjudgment or anything of that sort, but conditions just happened that way.

No, I am not assuming that everything that you are assuming is in a spirit of antagonism and of trying to combat my theory; I am

trying to give you, Mr. Howard, just a clear understandable version of this matter as possible.

"Q. That is what I say. I am admitting that the plant was perfect as originally laid out, that is just what I started out with, but owing to the conditions changing, that can render the services of a plant less valuable, less useful, can't it?"

"A. All right, I admit that that is true, but say that there

2840 is no such instance in Houston."

I absolutely say there is no such in Houston. I know where the Montrose Addition to Houston is, the most fashionable and desirable addition; I know about where it is. I have no idea how old that addition is. I think two or three years, something like that.

"Q. Well, it is very new. Did you know that the residence four or five or six years ago everybody thought the residence district was tending to eastward here from Main Street?"

"A. Tell me what is out in that direction,—Highland Park?"

"Q. No, Highland Park is way over there. Highland Park is rather-no, Highland Park is way over there, this way. Highland Park is in rather-

"A. (Interrupting.) I just wanted to get my bearings, that's all."

"Q. Now, the residence district, the labor or workingman's district of Houston lies off in this direction, to the north and to the northwest and around down towards the channel to the northeast, and the residence district is known as the south side."

"A. Are you speaking of this first as along Harrisburg Boulevard,

along there?"

"Q. The Harrisburg Boulevard, that is rather a workingman's section, pretty thickly grown up."

"A. I have been all through there."

"Q. Then that is comparatively newly grown up too, it is building down there rather considerably and the City is

branching out in a good many ways that wasn't anticipated five or six years ago. Now, do those things affect in any way the plant as originally laid out?"

"A. No sir." "Q. Why not?"

"A. Except in this, that the Company is going to have to build a new building out in the Harrisburg Addition. They are going to have to make some provision for extension possibly building out in the Montrose Addition some place, in order to take care of the increased patronage."

"Q. Well, I don't know enough about this from an engineering standpoint, but as I get it in a general way, where there is a very considerable traffic and where it can be done, you carry the traffic in

underground conduits, don't you?"

"A. Yes, sir."
"Q. Now, I suppose—Is there anything you might call a "trunk" conduit?"

"A. A what?"

"Q. A "trunk conduit," a large conduit that leads off into any particular section and carries a great many wires to a certain point before it begins to branch off?"

"A. Yes sir, the main conduits branch off."

"Q. The main conduits. Now, if the main conduit was laid with reference to the City building out here in the southeast part of town and it developed that it really built in the south-2842

western part of town, what effect would that have upon the

trunk conduit?'

"A. None at all."
"Q. Wouldn't that have any effect at all?"

"A. No sir, because those duties-Now, I am saying that in this instance, I have talked to a great many people in Houston. real estate men and others, and the growth of your city is constant, it is not limited to any one particular part. It is spreading all over. You have facilities here that no other city in the State of Texas has. You have got the best location. I am going to get into that later on.'

"Q. They have gone over it two or three times. We are satisfied about it."

- "A. But the engineering, the fundamental plans of this plant are just as perfect as any plant I ever saw. They are taking
- "Q. (Interrupting.) Well, now tested by inadequacy and obsolescence, is there any plant in 100 per cent condition?"

"A. I never saw one."

"Q. You never saw one. There is then some inadequacy and some obsolescence inherent in this plant here, is there not, there is some, at least?"

"A. Well, you can call it by any name you please, but I wouldn't say there is any obsolescence or any inadequacy that hadn't been taken care of by the company. I would say that there is a

2843 condition per cent, as to the property prevailing that would make the property as a whole in about 88.07 per cent present condition as an operating property, but as far as obsolescence or inadequacy is concerned, there is nothing there."

"Q. Well, we'll pass from that. Have you submitted this figure

here of five and a half mills-

"A. (Interrupting.) I haven't submitted anything yet."

"Q. You have just submitted an appraisal of these properties."
"A. Yes sir. I haven't talked about any figure."

"Q. You were asked to make an appraisal of the plant?"

"A. In the way that-

"Q. (Interrupting.) In that appraisal, you don't call the values off?"

"A. No sir."

"Q. What relation has it to value?"

"A. Just a measure of what might be considered, taken into consideration, measure up as to what the value might be."

Mr. D. A. Frank: He hasn't got through yet, Mr. Howard, with his testimony.

"Q. But in depreciating it, you have considered only the physical per cent condition and not obsolescence and inadequacy?"

"A. No sir, I have not taken into consideration any obsolescence

or inadequacy."

2844 Reirect examination,

Questions by Mr. J. D. Frank:

If my judgment can be relied upon, I have not included in my appraisal any telephone property in the City of Houston which is not used or useful in the telephone business; I just took what was

used or useful to the City of Houston.

In regard to — Counsel questioned me with reference to substitutions, if I were building a new plant here, if I did make substitutions, because of the change in the manufactured articles, a substituted plant with all of the latest manufactured articles, it is a fact that within a few months time that some of those articles would be off of the market so far as the actual manufacture of the articles is concerned. I might say this, that in the transmission of messages over our lines in France, the lines of the Army, we used equipment that had not been put into use in the United States simply because it had reached a state of improvement where it was necessary that we have the most modern improvement in the transmission circuits, and they shipped them right to France to us, so that we could use them there and they were not put in service here. The Bell Telephone Company did not ship them to us; they were shipped by the Western Electric Company.

With reference to the efficiency of those articles which are no longer manufactured, that does not have any effect on their efficiency because they are manufacturing them in a little different manner, nor does that make them obsolescent so far as the use of those articles are concerned; I testified to the same thing saying

they did not in answer to Mr. Howard's question.

I have ridden in the elevators over in the Preston building. I have not been riding in them every day since I have been down here; I have only been in them twice this week. When I was down here before I was in them every day. I have inspected them. If the Otis Elevator Company has made the statement that they could not give you a correct estimate of the reproduction cost new of those particular elevators, because that particular class of elevators is no longer manufactured, that does not affect the efficiency of those elevators in that building; they perform the services for which they were intended to all purposes now. That does not make them obsolescent, nor does that render their per cent condition any lower than it would be if they were still being manufactured. As a matter of fact, it does not have anything to do with the per cent condition.

If I started in to reproduce this plant here in the manner mentioned by Mr. Howard and made substitutions of various items of material, here, there and yonder, when I got through I would not have an estimated cost of reproducing the property which exists

in Houston today. I might just as well have somebody send me a map of the City of Houston and sit down in my office in St. Louis and draw out the conduit runs and the location of buildings, and then satisfy my own mind as to the kind of equipment I am going to put in them as to say yes to such a question as that. What I was trying to do was to estimate the cost of reproducing the property that was here; certainly, that is my idea.

The Annual Reserve for Replacements is to take care of storms,

fires, etc., among other things.

The telephone business is a hazardous business. You are 2846 liable to lose a part of it through conditions of the elements, fires, or anything of that sort at any time. I know that some of these buildings which I had in my appraisal are likely to burn down; those things do occur in connection with large plants all of the time. I do not take anything off of the per cent condition of the property on account of the fact that those things have occurred in large plants of this size and that certain items of this kind will occur in this plant; the proposition of condition per cent and what amount of money it is necessary to set aside to keep the dollar worth 100 cents, are two different things entirely. You are talking about two different things. You cannot mix oil and water and that is what you are trying to do in this, by asking a question of that sort.

Land is the first item of property in my final summary. I did not appraise the land. I secured from four real estate dealers their figure and their best judgment as to what the land was worth, then, in order to be consistent with my other methods of procedure I took the average figure of the four real estate men. Those real estate men were Mr. Hannah, Mr. Wilson, Mr. Mills, and the Sam Realty Company, all of Houston, Texas. I got from them an estimate of the market value of the various pieces of land and added together their four estimates and divided it by four and took that as the value of the land. I got \$178,500.00 for the land in that manner; the detail of that is shown on page 2 of the Appraisal. I have not seen any of Mr. Hoag's figures at all, Mr. Frank, and I do not know what his figures are. The details of that appear on page 2. I included as the valuation of the lots upon which the Preston building is located \$167,600.00; the lot on which the Hadley Exchange building is located, \$5,000.00; the lot on which the Taylor building is located, \$2,700.00; the property

2847 in Fullerton Place which has been purchased for a new exchange site, \$3,200.00, the lot is for the proposed Harris-

burg Exchange, a total of \$178,500.00.

Taking up the item of Buildings, I have included in the appraisal as the cost of reproducing these buildings, \$463,131.00. That is the reproduction cost new. The reproduction cost new less depreciation is \$395,814.00; the detail of that will be found on pages 3, 4, and 5.

On the Preston building I placed a valuation of \$346,092.00 new; \$311,483.00 cost less depreciation. I found that building to be in 90% condition. The Hadley Exchange will cost new \$83,142.00; cost less depreciation, \$74,828.00. The Taylor Building \$31,547.00,

cost new less depreciation, \$28,327.00. The warehouse located at 3213 Texas Avenue, cost new \$300.00; cost less depreciation \$210.00. The garage located on the Preston lot, which is used for housing vehicles and tools, etc. \$1,400.00 cost new, cost less depreciation \$1,120.00. A little storehouse located on the rear of the Taylor Exchange lot, cost new \$650.00; cost less depreciation, \$552.00, giving me a total cost new of \$463,131.00, and the cost less depreciation of \$395,814.00.

In ascertaining the cost of these buildings I did this, I have estimated the cost of the buildings owned by this company, that is, the Southwestern System in many places in Oklahoma and Missouri. The buildings are built under general standard specifications and do not vary to any degree one from the other. The same class of steel, concrete reinforcement and other materials are used in all of the buildings. They are built expressly for telephone purposes, the

floors are thicker and heavier, as are the foundations and side 2848 walls than an average building of the same size would be.

This is due largely to the engineering basic principles for building a building or any part of a telephone plant. The buildings are put up to have additional stories added to them, that is, the foundations are built heavier than they naturally would be for a two or three story building, they are built to take four, five or six stories, like this Preston Exchange building; the building is constructed for five additional stories, I think it is, that is, this building has been constructed in such a manner, that whenever it is necessary to do so they can add four stories on to the building, with no need to reinforce the foundation or the lower side walls or anything of that sort. It is already there for the purpose. In my experience in estimating the cost of these buildings. I have followed the same principle in Houston as I did in St. Louis, Oklahoma, Springfield, Mo., Fulton, Marshall, and other places, of estimating the cost per cubic foot, the cubical contents of the building. I have the price per cubic foot and that varies; on the Preston Exchange building I use a price of 551/2 cents per cubic foot. That is on page 3, and I show that in connection with each building, the price per cubic foot. The Hadley Exchange, the Hadley building, 44½ cents, the Taylor building, 43 cents. That procedure or method of estimating does not vary or differ from the methods used by other engineers in the same class of work.

The figures used by me included architect fees, they included the cost of the building erected as it is. I would not undertake to get those buildings built on the prices I have used at the present

time; I don't think so.

The figure of the central office equipment I have here is \$975,668, cost new; \$882,283,00 cost less depreciation. Unfortunately, 2849 I have to admit an incorrect wording in this item; Roman numeral I, right after the letter of transmittal, under the heading of "Central Office Equipment." That is the last paragraph under Roman numeral I. I say here, "the figures used by the Company in its appraisal have been used by us." That is not correct. I did all of this work and in writing this letter, I was a

little hurried and I should have said that the figures used by us were supplied by the company. Now, the same is true on page 6; it should be that the figures used were supplied by the company.

In the statement down there at the bottom in the last sentence in that paragraph under Roman numeral I, I say: "The company used an average price of five years in this instance, and we in making our check find the prices used to be conservative;" the estimate which I used was based on the five year average prices. I asked the Engineering Department of the Southwestern System for the average five year cost of the Central Office Equipment. I did that for several reason. This is a big plant and the Central Office Equipment is a good big part of it. Of course, I have checked the records—well, I did check the record of all the equipment installed in the St. Louis Plant, that is the voucher cost. I did the same thing relative to Springfield, Missouri, where the cost of that Central Office Equipment was \$86,000.00, and in other smaller plants owned and operated by this company, and I have never found yet any discrepancy as to

the cost of the Central Office equipment for the simple reason that they simply go to the bills rendered by the Western Electric Company for the cost of the installation. I felt reasonably sure that they would have no object or idea of giving me any inflated cost or the wrong cost in this instance; I had no hesi-

tancy in asking for it.

When I got those prices I made a check of them. I did this; I checked them in comparison with other appraisals that I had made of the same class of equipment, and found them to be conservative and correct and so I adopted them. This same procedure has been accepted by both the Oklahoma and Missouri Commissions and by the courts after that, in cases of those commissions. The next item is No. 4, Subscribers' Equipment; the cost new is estimated at \$357,087.00; the cost less depreciation at \$308,732.00. I show the details as to that on pages 10 and 11 of my appraisal. Under this account, I might say that, so as there will not be any confusion or confused ideas, that I have used under these various captions, Account No. 18-C, for instance; this is all in accordance with the Classification of accounts set up by the Interstate Commerce Commission, prescribing how the company shall keep their books under various account numbers like under subscribers' equipment, station apparatus, would be 18-C, their account number for aerial cable is 2-C, their account number for aerial wire is 14-C and so on, and I have just just for comparison purpose, have used account numbers conforming to the classification of accounts, construction accounts.

I am familiar with the rules of the Interstate Commerce Commission with reference to the system of accounting for the telephone companies. I will say this, that when the Interstate Commerce Commission issued their classification of accounts in January, 1913, I was the engineer for the Oklahoma Commission, and recommended to that Commission that that classification be adopted, be used by all telephone companies in the State, where it could apply, and that Commission immediately issued an order prescribing that classification of accounts for Telephone Com-

panies. The Missouri Public Service Commission have done the same thing and have that also. It is compulsory on telephone companies throughout the United States. There is a penalty attached provided for in the classification of accounts in the law that unless the books of the Company are kept in accordance with that classification that the company will be penalized. They have to keep all of their accounts in their local exchanges in accordance with that system of

accounting.

On this station equipment or subscribers' equipment, as I designate it, it so happened that that differs greatly from central office equipment in that the units are compact and small and prices are readily obtained on this class of equipment; I had the prices and could use the prices for this class of equipment that I had. Those were the prices of the Western Electric Company; these are Western Electric instruments and I could not apply the prices of the Kellogg instrument, or a Stromberg-Carlson, or a Dean instrument to the Western Electric instrument. Those are the same kind of instruments that are used in Oklahoma and Missouri; this type of instrument is used by the Bell Telephone system throughout the United States. It is not obsolescent, that is, for common battery equipment. In rural districts, where they have rural lines and

small magneto exchanges, something of that sort, you will frequently find Kellogg instruments in many places. Dean instruments with Kellogg switchboard in many places, and Stromberg-Carlson instruments on a Kellogg switch-board. words, for many years past, a great many of the companies have not been limited to buying Western electric equipment. No, you do not find that in some of the larger equipments, as we say, in the telephone business, there is no Duke's mixture in the exchanges. It is all a standard type of equipment and it is found economical to have a standard type of equipment. I might explain that this way: you have your trouble men, taking it from the operating room, you have your operators, then in the Plant department, you have your installers, your trouble men, your wire chiefs, and each and every one of those men know that class of equipment, know just exactly how to handle it, if it gets into trouble, what to do for it, and if you had two or three different kinds of instruments scattered around, then it would necessitate having two or three different kinds of supplies on hand to repair those particular instruments, and a man might know just exactly where to look for the trouble of a certain kind on a Western electric instrument, or owing to the change of a spring or something of that sort in a Dean or a Stromberg instrument, he would be puzzled, take him longer to do it. In other words, standardization throughout is the most economical procedure, or basis for the company to work on, and that is what they do in these larger plants.

If a man goes from one exchange, say, a repairman or a lineman goes from one exchange to another, by reason of the fact that 2853 the equipment is standard he can work as well in one town as he can in another and not only that, but in repairing instruments, or lines, or things of that sort, he carries one standard

class of equipment with him, repair parts, etc. He can do anything

connected with that.

In connection with the various rate cases that go before these Commissions, I have had and the Commissions in some of the cases in which I participated had occasion to investigate the prices of the Western Electric Company with reference to whether or not they were high or low, or how they compared with the other companies: we have done that, in fact, I personally have gone through the Western Electric plant at Hawthorne, Ill. I have also gone through the Automatic Electric Company in Chicago, and the Stromberg-Carlson manufacturing plant there and I can say frankly that the prices of the Western Electric Company are no greater than they are of these other companies for the same class and character of equipment. As a matter of fact, the prices are a little bit lower, due to economical reasons more than anything else. Their facilities are so great of supplying the demand, they can turn the apparatus out more readily, thereby causing the Company that wishes to buy it to be served long before they can secure a similar type of equipment from some of the other companies or manufacturers. Not that the prices are any lower. but in the interim that they would have to wait for this equipment they are receiving revenue from apparatus installed where they would still be waiting for it from the smaller manufacturers.

The Western Electric Company is the largest manufacturer 2854 in the United States, that is, of telephone equipment and has the largest facilities. I would not say that it is the best. I would say that it is as good as can be had. Frankly, Mr. Frank, I believe that there is some classes of equipment made that are just about as good, in fact, the Stromberg and Kellogg and Western Electric are just about on a par, but not on everything; some things they are better on, other things they are not quite as good. I believe it is generally conceded that on a magneto telephone, the Kellogg Company makes a better telephone than the Western Electric, that is, throughout the independent field.—conceded by

the independents.

I have had occasion, I guess, to examine vouchers and bills sold by the Western Electric to the Bell, aggregating Ten Millions of Dollars worth of material. I have investigated the prices of some of the materials which the Western Electric Company has sold to some

of these independent companies.

In making those investigations I never found an instance in which the Western Electric Company had charged the Bell Telephone Company more than it had charged an independent company for the same class of equipment, on the other hand, I have not found where they charged the independent company any more than they charged the Bell. I found the prices the same, I can cite you to instances of that, the installation of the No. 1 switchboard, the same as you have, practically the same as you have here, in Columbia, Mo., the installation of the No. 1 switchboard in Joplin, Mo., which

is as large as any individual board you have here, the price

2855 is just exactly the same.

On this subscriber's equipment, I took the five year average price on that and applied it to the quantity of material that I found

in this plant just in the same manner that I have always done. The cost new of that particular item of property is \$357,087.00, and the reproduction cost new less depreciation is \$308,732.00. Now, under this heading comes several minor accounts, such as the station installation, the private branch exchanges, the booths and special fittings. I thought I had a summary of that, but I have not, but the aggregate is that figure of \$357,087.00. Subscribers' stations alone, that is the desk telephones and the wall telephones used by the company including pay stations, are \$147,668.00, the cost new; \$125,188.00 cost less depreciation. That is on page 10.

On page 11 I have Station Installations, which is installing the subscribers' telephone in place, and I have figured out the reproduction cost new and then the reproduction cost new less depreciation.

Page 12 is a part of it, that is the "Exchange Interior Block Wires," that is under account 48-C, that is \$1,772.00 cost new, and \$1,506.00 cost less depreciation.

A block wire is the wire that is run along the buildings and in the block, within the block from one terminal head to the subscribers' stations.

2856 I do not continue that on page 13, that comes into a different account, that is "Aerial Wire drops." That comes under the heading of the "Distributing System."

Cross-examination.

Questions by Mr. Howard:

There is no concern or manufacturer of this telephone equipment that compares in magnitude to the Western Electric. firm that I said is a large firm is the Kellogg Switchboard and Supply Company of Chicago. They manufacture mostly equipment for small exchanges. Well, they make large installations also. They build common battery switch-boards of large type. I don't know personally of a large installation, I can't recall it right now, that is, that is in service at this date. The first switchboard that the Kinloch Telephone Co. had in St. Louis was a Kellogg installation. That was a great deal larger than all of the combined switch-boards in Houston; it was a big type of board. That is out of date now and has been destroyed years ago. I do not know of any large board that they have installed now, that is, the Kellogg. Another one is the Stromberg-Carlson Manufacturing Co. It is not larger than the Kellogg in magnitude, I think it is about the same sized concern. They manufacture switchboards and instruments. Exchange of the Kinloch Telephone Company is operating Stromberg-Carlson equipment. It is the largest one unit switch-

2857 board in the world today, and that was installed, let me think, about 10 or 11 years ago. The Kinloch Telephone Co. uses that. The Kinloch Co. has about 40,000 subscribers in the City of St. Louis and operates elsewhere. I was just going to say, now that I recall it, the Delmar Exchange and the St. Clair exchanges of the Kinloch Telephone Co. which are large exchanges, larger than either Taylor or Hadley, are Kellogg equipment. I believe the East St.

Louis Exchange is also Kellogg equipment. That is an independent

company, that is all the Kinloch that I am naming now.

In St. Louis they have two telephone companies; the Kinloch and the Southwestern Bell Telegraph & Telephone Co. The Kinloch is about the largest independent company that I know of. The Keystone in Philadelphia may be about the same size, but I don't believe it is quite as large as the Kinloch. They are about, I think they are capitalized at Ten Millions.

I do not know who manufactures the equipment for the Keystone, but I would hazard a guess that it is Kellogg equipment because I know the Sales Manager that used to be with Kellogg very well,

and I think that he is interested in that company.

I would not call these other manufacturing companies very small as compared with the Western Electric. I will tell you another installation that the Kellogg people made and one very large installation was Los Angeles, California, and they installed a modern, common battery switch-board there, operated just as successfully as any other type of board, any other make, but it was replaced with automatic. There are numerous ones all over the country,

2858 I can't just recall them to memory. It has been a long time since I had that question put. Neither the Kinloch nor the others that I know of of those concerns are engaged now in the manufacture of any large equipment.

Redirect examination.

Questions by Mr. J. D. Frank:

I have not included in my Subscribers' Equipment in connection with the instruments any receivers, transmitters, or induction coils; never have done that. I did not include them because I know from the investigation of the records of the Bell Company for the last 11 years, that the Southwestern Telegraph & Telephone Company, the Bell Company don't own the transmitters and receivers and inductions coils. They rent those from or secure the use of those from the American Telephone & Telegraph Co., that is the common practice throughout the system. In connection with my Central Office equipment, page No. 9, I have a heading: "Other Equipment." The Central Office, "Other Equipment," is the equipment that consists of furniture and fixtures used in the operating room of operator's rest room, and dishes and cooking utensils used in the kitchens of the various exchanges. That is in connection with the rest rooms, cafeterias, and cloak rooms.

I have been familiar with a good many large telephone exchanges and know that it is customary to have those cafes and rest rooms,

and so on in large exchanges; all of them have them. It is as much a part of the essential equipment of a modern exchange to have facilities for the operators that will make their surroundings pleasant, and give them as near home-like conditions as it is possible as it is to have the switchboard and wires.

I am familiar with the Home Company at Kansas City, the Home Company at Joplin, Missouri, the Kinloch Telephone of St. Louis,

and other large companies, and they have these facilities, and that particular item of property has been included in the appraisements of the various companies and it is perfectly proper. It is generally recognized by the Commissions that the Company's property includes that particular equipment; the items have never been ques-

tioned at all, it has been taken for granted that it is.

On page No. 1 of my summary the next item of material there is the distribution system, aerial. That covers pole lines, pole accessories, the aerial wire and aerial cable. Of course, in connection with the poles, we have only the poles in place. With the item of accessories we have the cross arms, and anchors and guys, pole sets and other equipment that goes to make up the pole line equipment. In the wire we have the copper and iron—bare-wire, whatever covered wire there is, the drop-wires; and on the cable we have the different sized cable, together with the terminals and other parts of the cable equipment that go to make up the cable parts.

2860 On that property I found the cost new, \$1,021,043.00,

cost new less depreciation \$886,587.00.

With reference to the details of that particular part of the equipment, on page 20 is the beginning of the poles, and we will find the summary of the poles on page 23; pole accessories begin on page 24 and end on page 25. I might give the figures that go to make up this total amount as we go through. Going back to the poles, we have a cost, new, of \$302,085.00, cost less depreciation, \$225,425.00. Account 21-C Exchange Pole Line Accessories, cost new \$70,300.00, cost less depreciation \$59,338.00. Aerial wire—that is on page No. 25.

In aerial wire, we have cost new \$59,110.00, page 26; and cost less depreciation, \$49,261.00. Aerial cable, aerial exchange cable, Account 2-C, beginning on page 27, and the summary will be found on page No. 31, cost new \$589,548.00, cost less depreciation, \$522,563.00; gives us a total which is shown on the summary, see Final Summary page 1, of cost new \$1,021,043.00, cost less depreciation,

\$826,587.00.

My next item on Final Summary on Page No. 1 is Distribution System-Underground. The distribution underground of the underground cable consists of the underground cable, both main and subsidiary house and block cable, and subsidiary cable. There are five different accounts under this item which are 14-C, 15-C, 24-C, 25-C, and 35-C. That is the classification set up by the Interstate Commerce Commission. That is the beginning of the underground system on page 39. Now, turn to page 41, that gives you the summary of

the \$576,250.00, cost new; cost less depreciation, \$497,458.00.

2861 The next page 42, account 25-C, exchange underground cable, subsidiary and block, the summary on that will be found on page 26. It is a summary in itself. That cost new \$86,740.00, cost less depreciation \$74,078.00. The next item is 35-C, the summary of which will be found on page 48. This is house cable, total of \$8,589.00, cost new, \$7.646 cost less depreciation. Now, then, we will have to turn back to page 32, beginning with Account 14-C of Exchange underground conduit main. The sum-

mary of that will be found on page 35. I do not find the cost new of that particular piece of property, \$62,930.00; there is an error here some place; oh, the summary will be found on page 36, I made a mistake. I find that the cost new of that property \$459,686.00, and the cost less depreciation \$429,847.00 in Account 24-C, which is the exchange underground conduit subsidiary starting on page 37 and ending on page 38, the total of that account is \$48,557.00, cost new, \$42,285.00, cost less depreciation. That covers all the underground system making a total of \$1,179,822.00 cost new, and \$1,051,314.00 cost less depreciation. That gives me for my distribution system, aerial distribution system, underground, etc., the sum of \$4,175,-251.00 cost new, \$3,703,230.00, cost less depreciation.

I have on page 1, Item 8, overhead expenses 17%; that 17% is 17% of the physical plant as shown in the total, line 7, page 1. That represents the overhead expenses involved in the construction of this property, which are to be added to the cost of the material and the labor of placing them up there, although they were expenses that were incurred in connection with the construction of the property; those are expenses that could be allocated in the

2862 same percentage to each individual class of the plant, but it is the general practice to put them in as a lump sum in this manner. The detail of this 17% will be found on page 2, Roman numeral.

With reference to the item of my overhead expense, organization expense 2%, the matter of building a plant of any size at all, it does not necessarily apply to Houston or St. Louis or any other property, there has been the general supervision over the entire period, and this is carried on by the general offices of the company, and we have found through experience that 2% will be a reasonable allowance for that supervision. That is also sometime spoken of as "General Expense." Valuation engineers always include an item of that kind

in their cost of starting the property; it is always included.

The next item is Omissions and Contingencies in the sum of 3%. There are so many items that can come in under the heading of omissions and contingencies, leaving out parts of the plant that you overlooked in taking your inventories and unforseen expenses of various characters, various kinds. Omissions here is not designed to take care of omissions only; there are contingencies. Going into detail a little more and giving you an illustration of contingencies, showing why it is necessary to make an allowance of that kind, one item that could be illustrated in a way is the location of a plant, that afterwards develops is not exactly located suitably, or something of that sort. I do not know of any plant in Houston, through the inventory that we checked, that would come under that specific

2863 item, possibly, if we had taken and checked the whole inventory we would have found considerable of the plant that might have come under one item and if anyone else had checked it they would have likely found some more. Now, for instance, we have always found items of contingencies and omissions. Up at Springfield, Missouri, the company had left out of its inventory an

item of \$2,500.00 for a sewer that had been constructed which was found properly charged to omissions and contingencies. The reason I haven't such matters as sag in cable and wastage in materials in connection with my omissions, I suppose, I should have gone into all I thought it had been gone over, why all those things came that. The cable ends that are not accounted for, there are two or three feet, sometimes as much as four feet in every cable spliced; there is a loss on wire in splicing; it may seem a small item, but in soldering joints, soldering expense, there is a good deal of time of the men doing the work that goes into the charge of the work, but you cannot very readily pick it up, and the fixing of mains and fixing cables and all of those kinds of things. I heard Mr. Topping's testimony in reference to example for omissions a few days ago. Those are the things that usually go to make up these omissions and contingencies, and those are the things which make it necessary to include an item of this kind to be correct.

If you are constructing any kind of conduit out here, and have to change the route on account of some unforseen obstruction and so on, that, of course, does not appear when you are inventorying the property; you are liable to run into a sewer or gas main

2864 and break it and have to fix it up or detour around it, or something of that sort; all those things come into this item.

The usual allowance on this made by engineers runs from 3% to 5%; I have taken 3 in order to be consistent with other appraisals I have made and to be conservative. In other words, in representing the Commission, I always practically took the lowest that I could and I have followed that same practice in this case, that is just exactly what I have done.

My next item on Overhead Expenses is liability and fire insurance; I have allowed 1% for that. That covers the liability of employees' insurance, fire insurance during the period of construction, which the contractor or builder would have to carry,—would be forced to carry. It is rather a conservative figure; I have seen it as

high as 3% for this item.

My next item here is interest during construction, 6%. I include an item of that kind because interest during construction is allowed during the construction of any plant, and especially is it necessary t ocarry this item on account of the hazard connected with the telephone business. The telephone business is not like an ordinary business, there are many things that come up in connection with it that you do not find any place else, they are not even in the construction of electrica lproperties. I am not talking about liability insurance; I am talking about interest during construction. It is true that interest during construction would merely cover the interest you would be out for the money you have used during that period of construction, but there are other things in connection with it.

The reason that interest during construction is charged is that you have got your money in there but are not getting any money for the use of it and you charge interest for the period of time during which you have got your investment and are receiving no return. I think the figure I have used here is lower

than you could get money at the present time. You should figure on a basis of about 3% upon it for a year and a half average time, that is, I have taken the average time of two years and counted 3%. I do not know any place where you can get 3% money, that is, at the present time you could not; I got this on a five year period and I am just staying consistent with the thing the whole way through, that is, trying to; I adopted the very lowest figure, I think, at which rate of interest I could get the money. During my twelve or fifteen years' experience I never heard of a telephone company that got any money at 3% in anything like small quantities. In large quantities it might have been borrowed at that rate several years ago, but not at the present time.

The next item is Engineering expense 5%. This is the usual and customary charge allowed in all appraisals for the item of Engineering; it covers the laying out of the plant, fundamental studies, all things that go in connection with the laying out, building and supervision during the building, etc., all engineering. I

have got a total of 17% for all of my overhead expenses.

I have not attempted to work out the percentage after each item, that is for instance, on omissions and contingencies, I have stated that I would have omissions and contingencies, but have not

2866 said that I would have omissions and contingencies amounting to nothing on land and ½ of 1% on buildings and 6 to 8% on Distributing Systems. I have taken it on the property as a whole and that is the way I have applied all of my overhead expenses obsolutely. It would not make any difference in the final result if I worked out this overhead expense with reference to the percentage which should be allowed to each particular item of property in the plant; it would not affect the total result at all, it is just simply separated from the entire property here as a matter of convenience and for nothing else.

Cross-examination.

Questions by Mr. W. J. Howard:

"Q. Mr. Player, on the whole question of overheads you engineers have started things in telling me about the percentage customar-y allowed, in figuring these things out, why not take the direct method and apply the overhead, determining upon the items that carry overheads? Now, for instance, land, the overhead that that carries is negligible. Now, why not limit it to buildings and architect's fees, why not eliminate those items and apply your overhead to things that really require the carrying on of overhead expenses, instead of bringing in the items that do not?"

"A. As I said before, Mr. Howard, that could be done, but it

would have no effect on the final results."

They all carry it right straight through as a lump sum on the whole property; it can be segregated and really charged as to each class of plant, but as I stated before, it is just simply a matter of convenience to apply it this way and it is the usual and customary way of doing it.

"Q. Some of the items here, I think are very conservative, Mr. Player. But now, your final 17%, is that not a little in excess of what has been the customary lump percentage to give on overheads, hasn't 15% been a very usual figure and customary figure?"

"A. Well, Mr. Howard, I will say this, that up to three or four years ago there was only one charge in one item that would affect

15% at all."

That was not injuries and damages, but is interest during construction. In the Springfield case and in the St. Louis case, I used 15% overhead and only used 4% during construction. In the Marshall case I used 6%, the same as this, money prices had gone up

and the interest rates had gone up.

With reference to my item of organization expenses 2%, which would be in excess of \$80,000; I haven't the chart of the organization of this company and it would be pretty hard to explain that to you without a chart showing the organization. That would not take the time of eight \$10,000.00 men for a period of over a year; there is the whole organization that would have some part in the building of this plant, you understand, there are the general officers, President, Vice-President, the Secretary, all of the employees, the

Legal Department, the Plant Department, all come into or 2868 under the General Expenses, and really the per cent of it

figuring 2% is conservative.

"Q. Yes, I understand that is conservative, Mr. Powell just called my attention to the fact that it runs all through the plan. Still at the same time, it is an easy thing to run up money on paper, an easy thing to draw on paper,—and we have \$80,000.00,—that is a good deal of money.

"Mr. D. A. Frank: As compared with four or five million dollars,

it is not very much, Mr. Howard."

"Mr. Howard: Yes, but now we are going to build a plant for four million dollars, and this \$80,000.00, as I understand it, is charged in here as expenses to just get ready to spend that \$4,000,000.00—to invest the \$4,000,000.00."

"A. No,—a part of the \$4,175,000.00 is being spent under the supervision of the general offices, all from the time they buy the land and start the construction, start the laying out of the plant—

the plant starts with the general offices."

This organization expense that I am speaking of does not mean getting the organization, getting the company organized, and getting your organization men together that are going to look after this investment; not in your overhead charges you don't at all. These overhead charges I could have called "General Expenses," and it would have been applicable to have called it general expenses. I am not prepared to detail it in any way except in the general way I am accustomed to.

Now, in these omissions and contingencies, when I start out in the manner in which I have done here to figure on reproducing the plant I estimate the materials necessary, I estimate the labor necessary, the number of men, and how long they are

going to work and all that sort of thing. In doing that I do not just adopt the theory that I am not going to be exactly accurate and that I have got it down to just within two or three days of the man labor I am going to employ, or within five or six of the man hours I am going to employ; I do not try to work it out that way at all. I told you this, Mr. Howard, the other day, that in estimating the reproduction cost new, I had the material and added to that the amount of labor necessary and I did not figure out that it was going to take a man thirty minutes to do this class of work or twenty minutes to do that class of work and sum up the whole thing; I do not go into all that detail. I did not arrive at how much material it was going to take of all the difference kinds; I had the inventory as to the amount of material, and then I built the labor price necessary to put that material into place. You can call that an estimate. but as I explained Friday, you will find the labor to bear a certain percentage to the material cost, and I get at it by that method. That might not lead you to employ too much labor or take care of some of these contingencies that might arise. If you had \$100.00 worth of material and applied 60% of that to labor, that is just that material and labor charged.

2870 "Q. But in figuring that labor to a man .- from experience you know that plants like this are never built without running into some difficulties,-and in figuring the labor and applying the per cent of labor charged to materials used, those contingencies

are included largely in the amount of labor, aren't they?"

"A. No. Sir."

For instance, we go along the street and we see a cable splicedwe will say it is a 200-wire cable; we know that in making that splice about 400 feet of cable was lost, some solder lost, there was some paraffin lost, other little materials that go to make up the splice, understand, little paper sleeves, muslin, and things of that kind that you cannot see. There are practically no contingencies in labor.

"Q. Well, there are contingencies where you take more time-for instance, if a trench fell in-for instance, you have to throw out the dirt and brace the trench-those things are included, and you anticipate things like that when you apply this 6% for material

and labor?"

"A. No, sir, not when I apply the labor. I am taking in anything

of that sort in this 3% which I have allowed."

If we disregard this inventory entirely and are trying to find out what these people invested in this business here I don't know that we would go to the books to find out. To go about finding out what was invested in this plant here I would have to take an inventory of it. Let me say this, that I don't know when this plant was started in its construction; if it was started prior to January 1, 1913, I doubt very much if there are any records. I am not relying on any book figures as to the cost of this plant here.

2871 "Q. Well, if you spend money and keep books, it will show up in the books-all those expenditures would show?" "A. If subsequent to December 31, 1913, I would say yes-because then the books were kept absolutely according to the rules laid down by the Interstate Commerce Commission."

"Q. Well, assume that—we will assume they have kept books, and they are experienced business men, they would keep books on it?"

"A. I wouldn't like to testify as to an assumption, Mr. Howard." If they kept books of their expenditures, I don't know whether or not those omissions and contingencies that have been inherent in this plant would appear upon the books or not as expenditures. In valuing these properties, when I valued them for different commissions that I have represented I did not give any regard whatever to the books of the utilities. There are two separate divisions, there is the Auditing Department of this state Commission, as of every commission. What I mean to say is I am merely a specialist in inventorying and valuing property; that is right for this case.

"Q. You, in referring to these omissions and contingencies a while ago, you stated that during construction you would find that parts of the plant had not been located suitably. What did you mean by that, Mr. Player—as an illustration of a contingency, I

think it was?"

"A. Well, sir-"

"Q. You just said that, I want to know what you mean by that?"
"A. I never—in all plants—I thought that had all been gone over."

2872 "Q. No-you just mentioned it a while ago?"

"A. In all plants there are some omissions that you are

liable to find-discover."

"Q. You stated a while ago, Mr. Player, in discussing the matter of contingencies, that you frequently found that parts of a plant had not been suitably located. What do you mean by that expression?"

"A. There may be a building in the wrong location."

"Q. Or a pole, as Mr. Frank suggested?"

"A. There may be some manholes in the wrong location, underground conduit, and cables in connection with it."

"Q. Yes? Then what do you do in that case?"

"A. What do we do in that case?"

"Q. Yes, what do you do in that case, what do you do when you discover that, if you are constructing the plant—and you are constructing it now?"

"A. Why, I would make some notations of it, if we discovered it

in taking the inventory—

"Q. But we are not talking about taking inventories now, we are building a plant, understand—we are out building a plant, and it is in the course of construction, and you, as supervising engineer, have discovered that a part of the plant has not been suitably located. And having made that discovery, what would you do?"

"A. Well, Mr. Howard, you will admit that those overhead

charges are in this inventory?"

"Q. Well, I am not speaking about that,---

"A. Well, I am. We are making this allowance of 17%.

"Q. Well, I am not talking about the 17%. You are analyzing your statement-awhile ago you made it, and I am 2873 just simply asking you what you meant by it, and you have told me that,—and now I am asking you as a supervising engineer, who has come here to tell us about building this plant, what you would do it you would find this plant not suitably located; if you can tell us, do so if you are so disposed, and are not disposed to keep anything back?"

'A. No, sir, I am not."

"Q. Then just answer the question in a few words and do not try to vary the question or try to evade it."

"A. No, sir."
"Q. Then, what would you do if you found parts of the plant not suitably located?"

"A. That would not have occurred if I had laid out the plant."
"Q. Well,——

"A. But I am taking the inventory of this property-I am taking

"Q. Well, we will let it go."

Mr. J. D. Frank: Let him answer it.

Mr. Howard: No, he is talking about an inventory—about taking inventory, and I didn't ask him anything about taking an inventory, and he has declined to answer the question, but has gone off discussing the inventory.

Mr. J. D. Frank: No, sir, he is not trying to evade the question. I did not understand your question just now, and I don't think the witness did. But be understands your question now, and I would

like to have him answer.

2874 The Master: Go on and answer the question as asked, Mr. Player. Suppose you found a pole in an improper place?"

"A. Well, I cannot answer Mr. Howard in any other way than this, your Honor,—that I am building up a plant here on inventory, and I don't know what the actual changes are."

The Master: If you found a pole in the wrong place, and put it in the right place, what would you do as supervising engineer?

"A. Why, I would put it in the right place, of course-if there

was anything of that sort.

"Q. Why, if you had told me that we would have been - of the question long ago. The next thing is liability and Fire Insurance. Now, of late, Mr. Player, that item is one that has taken the place of one that used to be formerly known as "Injuries and Damages," isn't it?"

"A. Yes, sir,—liability.

"Q. Have you ever figured out how it compares with the experience as shown resulting from injuries and damages, whether 1% is less than Injuries and Damages, ordinarly incurred in building these plants in the days before there was any Employers' Libility Insurance?"

"A. No. But in the various cases we have been over and deter-

mined, why, that has always been considered a conservative allowance."

"Q. One per cent?"

"A. Yes, sir."

The Master: Do you know what these insurance companies charge for the insurance against injuries under our Employers' Liability law?"

Mr. J. D. Frank: I think it runs something—taking the Telephone property as a whole—something like \$3.60 on a \$100.00 pay roll.

Mr. Howard: That appears to me reasonable.

Mr. J. D. Frank: Just a minute. I think Mr. Hoag is familiar with that.

Mr. Hoag: It is \$3.20 for line men, repair men, and that class of employees—that is, for \$100.00 pay roll. It is 17 cents for \$100.00 pay roll for telephone operators; it is 10 cents for \$100.00 pay roll for clerical people, stenographers and such people.

Mr. Howard: Now, Mr. Hoag, I would like to ask whether that is a lesser amount or a greater amount than was formely carried

for Injuries and Damages?

Mr. Hoag: I have heard it stated that that rate of insurance means a less cost to the utilities than did the old way of handling it. Whether that is so or not I don't know.

The Master: It must be true, because the larger concerns in the

State use it.

Mr. Howard: Yes, sir. I have no doubt it is true. It is a pretty

big saving, I think.

"Q. Now, Mr. Player, so far as you know, no other engineer has ever revised this overhead charge on account of change in it occurring in the matter of injuries and damages, do you? Do you know whether there is any savings in overhead or any change—

"A. I don't know whether there has been any late revision or

not, no sir.

I figure 5% for engineers' expense, and I know that in do-2876 ing it, it has been the customary thing to take 5%. I have no idea as to how many engineers it will take to supervise the construction and have not attempted to analyze that.

Redirect examination.

Questions by Mr. J. D. Frank:

Under the discussion of "Omissions and Contingencies," or in connection with that, in working out the cost of material and labor I have proceeded on the theory that the construction of this plant would be done under ordinary circumstances. In building up my unit of costs for the material and for the labor, so far as those unit costs are concerned. I have not made any allowance for the fact that at times we would encounter certain obstructions and difficulties, which would run up those costs; that is why I have allowed this 3%, to cover those things. I know that those things always happen in

connection with the construction of any property of any magnitude. Speaking of my duties in connection with the commission, when counsel asked me about the handling of books, and so on, and my statement that I disregarded the books there I meant in reference to making an audit of the books, revenue, expenses, etc. I am not an accountant, couldn't check the books to find out what the plant cost at all. Those commissions have accountants to look into those matters. You see in those commissions we have an

Auditing Department and an Engineering Department, and very frequently the engineers make appraisals that check very closely with what the auditors find on the books, other times there is a wide difference between them. We have never paid any attention to what

the auditors were doing, nor they to us.

Counsel has questioned me about this overhead expense of 1% for Liability and Fire Insurance; that also takes care of considerable expense in connection with the fire insurance, as well as our liability insurance; a contractor would naturally have to carry the insurance, both fire and liability, in order to protect himself. This amount is rather conservative. It is not limited to expenses resulting from accidents

In connection with my statement of disregarding the books there, I meant just this: that where I take an inventory of a plant for the purpose of making an appraisal of it, of the difference parts of the plant, that I don't go to the books and make a comparison as to what the aerial distribution system cost, as shown by the books, and then adjust my figures to comply with that: I make an appraisal, I don't take anything from the books as to the cost of the property as it stands, that is, in an appraisal, If I were going to make an auditing, that would be a different thing

In making up the final estimate of the value of the prop-2878 erty, that is, after I have completed my appraisal and am trying to determine the value of the plant, I do not consider the original cost and all of the other facts in connection with that; I am not determining any value at all in this appraisal; I am taking the inventory of the property and applying the unit cost as to that property in place, as to what it would cost to reproduce it in a certain period of time. In other words, I just took my inventory and applied my unit cost to it and got my physical figures that way in this appraisement, just the same way as I have been doing for all of these

commissions for the last ten years.

On page 1 of my Summary, Item No. 10 "Right-of-way," for that item I have included \$26,743.00. That will appear on page 49 of This item is estimated; no check was made of the cost the report. of the right-of-way. The estimate is made on the basis of the number of stations installed at the rate of \$1.00 per station. usual method of procedure without finding out through some source as to what was actually paid. From my experience it is rather low as compared with the actual cost of obtaining right-of-way. in years past done considerable right-of-way work, and I know very well that the charges for right-of-way in some instances are great and in others not so great; and I believe that this figure that I have used

here, and I have used it in other cases, is very conservative for an exchange plant. I know that it does cost money to secure this right-of-way.

Cross-examination.

Questions by Mr. W. J. Howard:

No. I did not get any of the items set up in the inventory direct from the books of the Company: I got those from Mr. Hoag, the engineer. I asked the Engineering Department for this cost, of course, simply because we had no way of estimating. I presume they have in charge the Right of Way. I did not ask the company for any cost of the right of way. I do not know what they paid or anything else for any right of way in this city, but I know that they do have right of way expenses. With reference as to whether I would or would not claim that it is an inventory for the right of way I would say this, I will answer your question and say No, with this explanation: That in my experience in the business that I believe that \$1.00 per station. I have used the same charge many times before, is a very conservative figure. I have seen set ups by the companies, while other charges for right of way would be two, three and four dollars a station actual cost. I do not know that this station here would be susceptible to determine accurately whether they have any right of way costs at all and don't know that I could ask the Engineer and that he would tell me nothing at all. I could have done that, but don't know whether he would have told me nothing. up the figures on what is considered sound principles

Redirect examination.

2880 Questions by Mr. J. D. Frank:

That is the way the commissions have always handled that proposition.

"Mr. Howard: Mr. Player, I ask why you are claiming this item of \$26,000.00 for right of way, we want to know—you are asking for return on value here, and we want to know."

"Mr. D. A. Frank: The judgment of this witness as to what it

would cost ——"
"Mr. J. D. Frank: A considerable part of that goes to the city of Houston in the nature of permits, about twenty-five cents for every pole set out here, fifty cents for every one hundred feet of trench that we dig."

"Mr. Howard: That is not right of way,"

"Mr. D. A. Frank: Certainly it is right of way"
"Mr. J. D. Frank: It is changed to operating expenses."

The Interstate Commerce Commission makes provision with reference to the item of right of way. They treat that as a capital charge, that is why I have included it in this; you will find the account, number of account 9-C set up on page 49 here of my report, I have treated

this whole appraisal right in accordance with the Interstate Commerce Commission's classificaton of accounts, as set up. It is a capital charge.

2881 "Mr. Duls: You do not know the number of the account of the Interstate Commerce Commission's system, do you?" "Mr. Player: Well, this is 9-C under the classification-

"Mr. Duls: Well, here is a copy of it, right here on page 27 (indicating)."

"Mr. Player: This under the Interstate Commerce Commission's classification, account No. 207."

"Q. This is in connection with a heading entitled—just explanatory of fixed capital accounts, isn't it?"

"A. Yes, sir."
"Q. Now, will you read that section 207?"

"A. It is headed, "Right of way. This account should include the cost of all land and interests in land acquired for the location of telephone wires, cables, pole lines and conduits, salaries and expenses of right of way agents, expense of appraisals and of juries, commissions or arbitrators, real estate brokers, commissions, costs of plats, abstracts, notarial fees, examinations of titles, recording deeds, etc. This account should also include the first cost of acquiring the leaseholds of land for right of way, the terms of which are for more than one year each, whether acquired through direct lease, assignment or otherwise,-

"Mr. Howard: Your honor, we don't think this all should go in."

2882 "Q. Will you finish reading that, Mr. Player?"

"A. In parenthesis "(but not including the rents paid periodically in consideration of rights obtained under such lease) if any such leasehold is acquired by assignment, the charge to this account must not exceed the amount actually paid therefor by the accounting company to the assignor."

2883 On page one of my final summary my next item after right of way is furniture and fixtures, local-that belongs to the local exchange; and furniture and fixtures, general office. They will all be found on page 50 of the report. These two figures are taken from the, were supplied me by the company, by the engineer of the company, Mr. Hoag. The local office cost new \$9,767.00. found on inspection the condition account as eighty per cent, making the cost less depreciation \$7,814.00. The proportion of general office, furniture and fixtures, cost new \$7,412.00. I applied the same present condition, I looked at the furniture and fixtures in the general office at Dallas and found that that item was in the same condition as here in Houston. I found the cost less depreciation \$5,930.00. Those are the figures which I have carried into my final summary on page one.

Cross-examination.

Questions by Mr. Howard:

By fixtures as applied here I mean Window shades and electrical fixtures and brackets of different kinds, and coat hangers and all those kinds of things. The central office here would not be the only office; it would also include clerical offices. I had a look at that furniture up in Dallas also; they have a lot of it. I am undertaking to have the figure of \$7,412.00 represent the entire cost of it.

The company figured the entire cost of the central office 2884 equipment, of the office furniture and fixtures in their general offices and assigned this proportion to the Houston exchange. That was all estimated for the benefit of San Antonio, Dallas, Ft. Worth, Austin and Beaumont,—the system here in

Texas: Galveston and Richmond and towns in Texas.

"The share of Houston was \$7,000.00. That would make it, just considering these large towns, would put it up in the neighborhood of forty thousand dollars, wouldn't it, to say nothing about the little towns?"

"A. I have the company's figures on that, the detail of it."

It is all in the inventory.

"Q. Now, that allocation—that is, allocation of expenses, and to have some supervision of this plant that was necessary, this plant stood by itself and ought to have its affairs administered here; it is figured that it cost seven thousand dollars extra to put in furniture to do that?"

"A. Well, you couldn't carry on the business of this particular plant by itself without having a general organization to supervise it, and I think that the cost would run up a great deal more than the company will show, irrespective of what they are, if they have to

have an extra organization to run this big plant."

They have got a general manager here now and have a local manager of the plant. I guess the company will put on witnesses to explain this allocating process.

2885 Redirect examination.

Questions by Mr. J. D. Frank:

That is the property that is used by the employes who are working in connection with the Houston plant, as well as other plants of the company throughout the system and used in connection with the

Houston plant.

The next item in my final summary is item No. 13, Tools and Teams. That will be found on page 51 cf the report. Tools and Teams is a heading that I use in making my set up to designate a certain class of property. There were no teams used in connection with this exchange; it is all motor vehicles here, but that is the general designation as to this particular class of equipment, is tools and teams; under that is charged, well, the detail of that on page 51 is the explanation of it. Page 52 will show the detail of the vehicles.

I did not show the detail of tools, because the explanation on page 51 speaks for itself on that. 14.08 per cent of the tools of the state are assigned to Houston, in the sum of \$11,638.00, condition present

75%, cost less depreciation \$8,728.00.

The stable and garage equipment I obtained from Mr. Hoag the figures as shown under column C. N. on page 52, cost new, and checked each of those items, looked them over and found that the general condition is 80%, all except the last item on the page, which is a new engine, Ford engine, which is in perfect condition, one hun-

dred per cent. Total of vehicles is \$9,870.89, and the cost

2886 less depreciation \$7,911.00.

Up to this time I have been estimating the cost of reproducing the physical parts of the plant; on line 14, on page 1, is the total, \$4,950,475.00 cost new; and cost less depreciation \$4,389,-My next item down there is Stores and Supplies and will be found on page 51. I have treated that in connection with working capital, have just separated them there and made the computation for the two of them. In other words, it is customary to, or rather some engineers treat those items as one, that is, make working capital include stores and supplies, and some of them separate them. I separated these, as I have always done in my appraisals, for the purpose of showing or allocating to that specific item about the amount of stores and supplies that would be necessary to carry on the business of a plant of this kind; that would include what poles were necessary, and wire of various kinds, cross arms, in fact, all equipment other than the station or central office equipment, except small parts of central office equipment such as cords, lamps, batteries, -what are termed short lived parts of the plant. I included there as working capital the item 16, which would be \$137,814.00.

Working capital represents the amount of cash and supplies that should be included necessarily to carry this business on for a month or six weeks; the company has to meet monthly or semi-monthly wages of all descriptions, and run small accounts and unforseen items of expense that would arise through a storm breaking down part of

the plant and they would have to put in extra forces in order 2887 to get into shape, etc. It has been the usual practice of engineers in a great many cases to secure from the accountants the amount of revenues accruing for a period of one year, dividing that for the working capital. We have found, or I have found in going over a great many cases that one month's revenue is not sufficient to carry it, but that at least six weeks should be allocated to the working capital, and that is what I have done in this instance, I have taken approximately six weeks' revenue accruing from all sources of the local plant and allowed them as the working cash that the company should have on hand to take care of its expenses exclusive of supplies; if we were to include supplies, the amount would be \$162,-814.00; separately it is \$137,814.00. That is for the purpose of taking care of the salaries of the six or seven hundred operators they have here and various employes that they have for running this plant here; it includes no part of the general expenses at all, it is purely local.

Cross-examination.

Questions by Mr. W. J. Howard:

"Q. Mr. Player, in figuring this matter up, working capital—and you say it has been a practice—have you engineers, in determining what is the proper amount to set up ever taken into consideration that there are different characters of utilities, such as—take the lighting, gas—the gas companies, water companies, they collect their bills at the end of the month—the street car company,

their bills at the end of the month—the street car company, for instance, collects its cash every day, sometimes in advance—and the telephone company, such companies as those col-

lect a great part of their revenues in advance."

"Mr. D. A. Frank: They don't collect any of it in advance."

"A. Well, Mr. Howard, that is always considered in those things, but you will find this: That while the company may bill its subscriber at the beginning of the month, that a great per cent of those subscribers—and I have found in numerous cases where these bills were rendered this way—that is, at the beginning of the month—that from seventy-five to ninety per cent of the subscribers will not pay their bills until the end of the month or until the beginning of the succeeding month and only a small per cent of, about fifteen, we will say—will pay their bills before the tenth of the current month,—while the company must have some money to meet its requirements—it wouldn't make any difference whether the bills were paid in advance or not, they would have to have the cash to carry on their business, they would have to have their supplies on hand."

Supplies is not different from capital; the Interstate Commerce Commission sets it up; there are some corrections in the Interstate Commerce Commission's classification, you can carry it any way you

please.

2889 If the company gets all of its revenues in advance, or any part of them in advance, it does not require a great deal less money as capital than one that does not collect until the end of the month; they know what their fixed expenses are approximately, and they must have what they estimate, as a reasonable man would, to take care of unforseen expenses, and they kind of make a bet with themselves, so to speak, that they are going to collect all this money; they might lose, and they might have to secure money from other sources to pay their employes when their wages were due.

Redirect examination.

Questions by Mr. J. D. Frank:

Up to this time I have given you the statement of what it would cost to reproduce the physical part of the plant, and have also testified as to the working capital. The next item that I have is cost of establishing the business.

In connection with my appraisal of the physical property I have not included any increment of the cost of the property constituting the physical part of the plant, situated and assembled and established plant, doing business and earning money; I have just included the physical property. That is why I set up this item No. 17 here as a separate item; cost of establishing the business. I have treated here my estimate of the cost of reproducing the business, in addi-

2890 tion to the cost of reproducing the business, in addition to the cost of reproducing the physical parts of the plant itself. What I have discussed heretofore with reference to the cost of reproducing were simply the bare bones of the plant.

As to what this cost of establishing the business is, what is included therein and how much I have allowed for it, and why I have allowed for it; in the building up of any business there are costs relative to the building up that can in no way be avoided, they are just as much a necessary part of the business and go into the cost of the property as any of the physical parts of the plant. In starting a business of the character of the Houston telephone exchange, we would have the preliminary costs, we would have to have the necessary expert advice to ascertain the amount of capital necessary, the approximate number of telephone stations that could be secured, the approximate or the rates to be charged for services rendered, then the approximate revenues to be received from whatever rates were charged; traveling expenses, railroad fares and hotel bills, stenographic work, printing and postage, all necessary to the preliminary work. Then, we would take the second step and have the legal expenses, the procuring of the charter and the capitalization expenses, charter fees, the filing and recording, the attorneys' organization and promotion fees, corporation records, secretary's books, and other records, procuring of a city franchise, with the attorneys' fees, the expense of the special election, and the incidentals, stationery, postage, printing, and stenographic work in connection with that special business. We would have the

2891 cost of selling service as as the third step.

If I were reproducing this plant here and the people were educated with respect to the need or desirability of telephone service, as to whether you would still have some expense in connection with selling service; I have not yet seen a telephone plant in any city or town, where there was competition, or whether there was not competition, but what the telephone company was put to great expense in selling its service; the matter of advertising—a company advertises continually, in towns where there is no competition they advertise—they advertise that the directory is going to close at a certain time, they advertise that they are ready to take care of certain parts of the city, or something of that sort, and there are a great many other things that enter into the cost of the selling of the service; you have your contract agents which necessitate expense, and your clerks, and all your postage and printing and stationery, incident to that subject.

Even though a certain number of subscribers would voluntarily come to you and apply for the service, you would still have expense in connection with the securing of that new business. I have seen instances where people living in towns where we had telephone service for years, didn't have telephones, the neighbors would ask

them, "well why don't you get a telephone?" "Well, we haven't thought about it," and you would go so far as to call up the telephone company and say, "Smith hasn't got a telephone, send one of your men out to see him;" and he makes two or three trips to see Smith, because he hasn't quite decided and he wants to talk

it over with his wife about incurring an expense of \$1.50, 2892 or whatever the price is, for a telephone for a month. All

those things go to make up the cost.

Now, we come into a fourth step, in the training of the forces, the operators, the commercial department, the management for the local property and the employes under him; the engineering department, plant department, with its general employes, its general foreman, a sub-foreman, cable foremen, cable splicers, switchboard men, inspectors, all of those employes; under the plant department, the linemen, the ground men, the installers and inspectors; then again we have a printing and postage and stationery connected with the expense of this department.

Whenever you need additional employes to do that particular kind of work, such as linemen, cable splicers, operators and so on you cannot go out and pick up employes of that kind from

the street most any day.

There is another place where advertisements are used, the papers practically carry a continual advertisement from the telephone company, that they want operators, they want employes of different kinds; a green person would come to the office, especially operators, and men wanting to become familiar with the business; they have to be trained, and, of course, the company has to pay those men while they are learning. The operators get, I believe—I don't know what the price in here in Houston, but I think in St. Louis they pay the operators a dollar a day while they are learning, and

then after they have learned the business, why, they put them on regular salary. It usually takes six or seven weeks

before they put those operators on the board to serve the public; and it has been found that it cost, or did cost, up to a year ago, I am not familiar with the present day cost—about \$43.00 per operator to train them so that they can sit at the switchboard and answer subscribers. That is in St. Louis; that is in these larger plants—in fact, most of the plants of the Bell system.

The fifth step we come to is the first issue of the directors, with all of the necessary costs incurred in that department. As much attention is paid to the directory as there is to any other part of the business; without the directory, why, the telephone subscriber of the company would be absolutely helpless, he has to have it, and it has to be prepared in a way that it is intelligently gotten up so that the subscriber can readily find the information he desires pertaining to the telephone.

Then we come to the next step which is the Operating Deficits. For the period of the first year during the construction of any big plant,—in a small plant it doesn't amount a year, but in a plant of this size it would, where you would have the general expenses, the general records, the taxes, financing, brokerage fees, the dis-

count, the printing of stock certificates, printing of bonds, the loss of revenues during development, the maintenance expense that is incurred in a plant being erected, it has to be maintained just the same as though it were actually in service, and until put in service,

whatever operating expenses are incurred, removals and changes, traffic, commercial, collecting, uncollectible items, rents, replacements. There are other incidental items that would go into this part of it, as postage, printing and stationery, and maybe other items that I have not named and cannot recall right now. Those are items of expense which would arise during

your construction and development period.

As to whether it is customary or not to work up the cost of establishing the business in dollars and cents as to the expenses which would be incurred for each particular item of expense, it has been my experience with the cases—in all of the cases that I have been connected with, we have set up the cost of establishing the business and allocated so much in dollars and cents to each particular step of the business; I have never in any case prepared it in that way, to the present day and hearing, but it is the customary way of doing it.

The sum of \$990,095.00 as the cost of establishing the business, which I have included in my set up, or in my appraisal, was arrived at in this way, that is twenty per cent of the total cost of the physical property, shown on line 14 of the final summary, page 1, or in other words, twenty per cent of \$4,950,475.00. I took the twenty per cent, flat figure, for the reason that the Courts, commissions have allowed it in just that way. In many decisions the courts have stated that this per cent is reasonable, say to include in the cost of the property this amount of money as a part of the capital charge, and that is the way a good many of the engineers put it in these cases. They do that because it is a convenient way of handling it without the assistance of the entire audit-

ing department to examine the books for years back to find out just exactly what costs were allocated to this particular step of the business; and an engineer would have a pretty hard time by

himself going into the records to ascertain that.

Say that the plant had began operation way back about 1888 and had been brought down to the present time, an auditor could not get the information definitely as to what it had cost to build up the business in a plant of this magnitude. I don't think he could, for the simple reason that, as I stated, this morning relative to the books, that prior to January 1st, 1913, no system, that is, classification of accounts or prescribed classification of accounts was followed by any of the companies. I do not believe that an auditor could do it, and I know an engineer could not. The allowance that is usually made by engineers for the item of cost of establishing the business is twenty per cent. There is a case that has been referred to that I might refer to, and that is the Westenhaven case. The Commission did not make any allowance for the cost of establishing the business when that case was before the Commission, and I

talked to the Commission relative to it and they did not think that it should be included, and the case went up to the Supreme Court and the Supreme Court immediately added twenty per cent to the cost of establishing the business as a reasonable charge. That was the Supreme Court of Oklahoma.

We have a good illustration of the cost of establishing any business right here in the City of Houston. In going over the plant, my route took me to the basin down here, this port

the City of Houston has established; the cost of establishing that business—while I could not get any figures relative to it, the mere knowing, that business principles had shown me that that was a very large item of expense to the City of Houston; to get that business started down there it has been necessary to dredge that channel, and at a great expense; it is one of the things that is going to, of course, make this one of the best towns in Texas, if not the best, because it has those facilities; but the cost of establishing that business is a good illustration, I believe, for the City.

Cross-examination.

Questions by Mr. Howard:

I do not mean to say that the Telephone Company spent a lot of money dredging that channel. I stated that as an illustration, it was a cost to the city to establish that business down there. I am just making an illustration as to the necessity of adding the cost of establishing business to any project.

"Q. Why, that is a cost of construction, you get an engineer if you dredge it out—and while it is a matter of administration, you are not administering the earth, you are constructing the 2897 channel, aren't you—and that is carried into the actual con-

struction part?"

"A. Oh, well, you have all these expenses in it just the same, Mr.

Howard."

I say that there are many decisions that state that 20% was the thing that was set up in reproduction in getting the value of the plant. I don't know how many decisions I have in mind; there is case after case of it, Mr. Howard; I have the Pioneer Telegraph Company vs. Westenhaven case, that was ten years ago. As to the others, I would have to get you up a list of them; I cannot recall any other case. I will tell you this, I will get you a list of twenty.

"Q. You have come here to testify and have stated there are many court decisions that said 20% was the proper amount to add, and now I have asked you for one, and you cited the Pioneer Telegraph Company versus somebody, that was one you were interested

in and you recall that?"

"A. Yes sir."

"Q. That was in the Supreme Court of Oklahoma. Now, did you ever hear of any other case besides that one? I will tell you one where they allowed a considerable value, and that was in the Waterworks case. Do you remember whether they allowed 20% in that or not?"

"A. No sir, I don't recall."

"Q. You do not recall? Now let's take this one, Westenhaver. what is that?"

"Mr. D. H. Frank: That is the Pioneer Telephone & Telegraph Company against Westenhaver—or Westenhaver against the Telephoen & Telegraph Company." 2898

"Q. Now, Low large a plant was that?"

"A. Probably \$100.000.00." And this is \$5,000.000.00?"

"Q. \$100.000.00?

"A. The same principle applies."
"Q. That same principle applies? Well, now, let's see if it does, that is one of the things we want to find out. You said a lot of these things, said in advertising it don't cost them any more to put in advertising for a \$5,000,000.00 plant than it does for a \$600,-000.00 plant, does it.

"A. No, the newspapers would charge just the same. You adver-

tise more frequently in the large ones.

"Q. You might advertise more frequently in the large one?" "A. And I guess the rates in the larger towns are larger than in

the small towns, too; it will cost more, yes."

"Q. You think it will cost more, you think that will run all the way through 20% because they said 20% on \$100,000.00, because they permitted an item of \$2,000.00 to go in as the cost of establishing the business, getting up a little organization and having some investigation made as to whether it would be a good idea to put a telephone up in that town, and pay some of the hotel bills and incidentals, and allowed \$2,000.00, and because they allowed \$2,000.00 in that case, you think that was a precedent to add a million in this case?"

"A. I would add the same amount."

I would add the same percentage. I think it would cost just as much to stop at a hotel if you were overlooking a little plant as if you were overlooking a \$500,000.00 plant. Of course, there are variances and I have heard of them as high as 35%; I say I have heard of them just in reading the different decisions.

"Q. It didn't make much impression on you. Well, now, the first thing we are going to do is to start out and get somebody to make an advance survey of this thing to determine whether-

"Mr. D. A. Frank: Fundamental plan."

"Q Fundamental plan? Al- right. You have got other set-ups in here, the Engineering plan, haven't you-have to send for an engineer, and are getting up plans for it.'

"A. That is the physical part."

"Q. That is the physical part? Now, over here under another item, you have got 2% for organization. Now, that is an expense, as I understand, that comes about preliminary to going to work."
"A. Well, that organization—I explained that this morning,—

was general supervision, general expenses."

"Q. They wouldn't spend any time in going to Fort Worth or San Antonio and seeing whether a telephone plant in one of those towns would pay or not, or anything of that kind. What would they do with this fellow we are going to employ now?"

"A. Which fellow?"

"Q. The one that is going to make this fundamental plan?"

Why, it takes an organization, Mr. Howard,—we have got a

big organization-this Southwestern."

2900 "Q. Oh, yes. But we want to see what is the necessity of carrying along this big organization, of putting in this telephone exchange, we want to see how big a crowd we are going to get together here, about how many men you will get to do that work.

"A. I don't know."

"Q. You haven't any idea?"
"A. It all depends entirely upon the laying out, and how big the city is, etc. I have never made any particular study-"

"Q. Made no study?"

"A. I told you this morning as to the number of men it would

take to do a certain piece of work."

"Q. You do not know how much you are going to need for them, you don't know how much you are going to pay the lawyers now to get the franchise?"

A. I have made a rough calculation, Mr. Howard."

In my first step, the preliminary step on the fundamental plans and expert advice and so forth, I have allowed for this plant, \$4,950.00; that is one-eight- of one per cent.

On the legal expenses I have allowed \$44,550.00; that is nine-

tenths of one per cent.

The third step is the cost of selling the service, of course, this embraces all those little items of detail that go into these steps; that is \$123,762.00, or two and five-tenths per cent.

The next is the training of the forces, \$32,178.00, or 65/100 of 1%; the next is the first issue of the Directory,

with the instructions, etc., \$7,426.00, 15/100 of 1%; the next is the operating deficits or \$777,225.00, or 15-7/10%, making the total costs of establishing the business \$990,095,00, or 20%. Now, that is my best estimate and judgment as to what it would cost to do that in Houston.

As to what this fundamental business man is going to do to get \$4,950.00, I will read you what I have estimated that the department to which that is charged will do. They will find the amount of capital that is necessary,-I have gone over all this,-the approximate number of telephones that can be secured,—they are going to find that out,-they are going to make inquiry and find out the approximate number of telephones. That is in the study; would have to do it, or we would have to do it if we were going to invest five or ten millions dollars in a property, to see whether or not it was going to pay us to put in that much money. Now then, they have got to make an approximate estimate of the revenues to be received and what rates are to be charged. They are going to go out and will have a map of the City of Houston, and they are going to locate their cable runs, their office buildings, their underground system, and all of the work incident to getting that business going. I guess possibly that department would have as many as twenty people in it and they are going to work four years,—all during the construction period of this plant and I am going to pay them \$4.950.00; I am going to use my big organization for this.

"Q. Well, you allow \$4,950.00 for this work. Whom are you going to pay it to, and how much are you going to pay them, and for how long a period? You have set up this figure now, \$4,950.00 and you have got the \$50.00 on, which indicates that it is worked out with some accuracy. Now let us know how many men there are in your organization, what type of men they are, what degree of skill, how long they are going to work, and what is going to be the rate of pay, because you must have done that, or you wouldn't have had down \$950.00—you must have done one of two things, worked it out accurately or guessed at it."

"A. Mr. Howard, I have seen those, or approximately those figures worked out in a good many cases, I have just made an approximate

estimate of what it would be."

"Q. You have guessed at it?"
"A. No, I haven't guessed at all."

Q. Well, you haven't been able to tell me how many men would be employed or their financial rating or how long they were going to work? Now, take the next item, \$44,554.00, that is worked out with a great deal of accuracy because you have left off the odd dollar and worked that out accurately."

"A. It gives us nine-tenths of one per cent."

I get this nine-tenths of one per cent, because those are figures I have adopted and used for the purpose. I just adopted it, that is it exactly. I know these figures have been allowed in other cases, and are usual. I worked these figures out for the Missouri Commission

in the Springfield case, a plant of over a million dollars, and worked it out for them in the Home Telephone Company

case at Joplin. I cannot refer you to the report where they have adopted this nine-tenths of one per cent for lawyer's fees. With reference to what service they are going to perform specifically, at the start of my testimony in this step, the reporter took down all the different items that came under the legal expenses of this property. That was under the second step of this proposition and is all under the heading of "Legal Expense". It is already in the record. We were not a going concern.

"Q. Al-right. You say here they are going to get a franchise. Now are you going to pay the lawyers \$44,554.00 for getting a franchise? Can you tell me one simple thing or substance that the lawyers are going to perform for which you are going to pay them

substantially \$44,000.00?"

"A. I read it all into the records, sir."

I will tell you what they are going to do; he is going to procure the charter. I don't know what he is going to procure the charter for. I put in \$44,554.00, because I say it is the same figure I have

used in other cases, and is as applicable in this case as in any other case; and that is not the only service he is going to perform, if you are going to limit it to the individual. He is also going to attend to the raising of capital of the company; he is going to finance the company; we are going to have him draw the papers. As to what papers he is going to draw and what is going to be a reasonable

charge for drawing the papers is already in the record. sir, I think that I will undertake to reproduce the record.

If you will let me answer a question now before you begin another, I will get it in. He is going to attend to procuring the charter, he is going to assist in the capitalization, he is going to attend to the paying of the charter fees, and that part that comes in there—the filing and recording of the charter, the organization-

You are interrupting me, sir. I cannot be interrupted every few

minutes and testify.

"Q. Now, tell us—you are telling, now, about the lawyer's fees, you understand, and you have told me he is going to prepare the charter and is going to draw up some papers in connection with the capitalization, and then you said he was going to draw the charter. Of course, the lawver don't do that."

"Mr. D. A. Frank: What he means is, file it."

"A. He is going to file it."

"Q. All right, he is going to send the charter up to Austin and have it filed."

"A. And then there is expense in connection with incorporation, and there is a corporation record to be secured, the Secretary's books and other records.

"Q. Is the lawyer going to secure those?"

"A. And secure a city franchise."

"Q. How is that?"

"A. And secure a city franchise."

"Q. Well, what is the lawyer going to get for securing city franchises, that is what I would like to know, how much you allow him for that?"

"A. The expense of securing a city franchise."

"Q. How much is that?"

"A. Expense of collection, postage, stationery and stenographic help in connection with this department."

"Q. In connection with the legal department?"

"A. Yes, sir. These items that I have read to you are what is usual, considered as part of the legal expenses that enter into the cost of establishing a business of this character."

"Q. All right. You cannot tell me one specific charge."

"Mr. D. A. Frank: Heat, light and water."

"A. Yes, sir."

With reference to whether or not I can tell one specific charge, I haven't the items, I am just putting it down as a flat percentage and just dividing it up so you could see what it would be.

Taking this item of \$123,762.00, that is your selling service. As

to what I mean by that, that I said, was the third step of expense relative to this item, and it includes the advertising. various classes of advertising that come into the establishing of any kind of business; you advertise that you are going to do a general telephone business.

"Q. Now, Mr. Player, just there you have told us that-that you advertise you are going to do a general telephone busi-

What is the necessity of advertising that you are going 2906 to do a general telephone business in a town of 160,000 people, where a telephone plant is going to be constructed,—what are you going to tell them?"

"A. In the first place you wouldn't have a town of 160,000 people when you begin this business, you would have-the town grows as

the business grows."

"Q. Well, I understand you are talking about the way this plant is built up, the existing plant you are getting for the city?"

"A. No, sir."

"Q. You are to reproduce this plant, you are to put it up now?"
"A. That is true, but your costs go right on ahead with your in-

creasing business."

Well, I will advertise that there are certain classes of service and certain rates, so that the people will be familiar generally with the charges that I make for different classes of service; I will advertise that the local subscriber can talk to any other place in the United States over my lines, I will give them that information.

"Q. Now, is that during the initial period, or doesn't that run

on a while after the plant gets into operation?"

"A. Oh, we begin to advertise, to let them know what our busi-

ness is going to be. "Q. All right. Now you are going to put in some advertising. Now, about what is that going to cost you?"

"A. \$123,762.00."

"Q. What,—just advertising alone?"
"A. No, sir."
"Q. Well, I was asking about the advertising?" 2907

"A. I don't know."

The next thing I am going to put in is I am going to have solicitors go out and solicit business: I am going to have enough solicitors to take care of a town of this size. I haven't made any estimate of the number of solicitors I would have; I would have to give that further

study.

The next thing besides the advertising and solicitors, I would have the cost of all the stations that were disconnected and changes of the records in that respect, etc. during the period; I haven't made any estimate about hoy many of them there would be and how much it would cost to make those changes. This is the cost of selling the service; I have not made any attempt to itemize the cost of any one of the different sub-divisions.

This item of \$32,178 is for the training of the forces; I am going to train enough employes to operate this plant and that will be something is the neighborhood of seven hundred employes, and to get how much it is going to cost to train each one of them, I would divide \$32,178 by seven hundred. I am going to set up a school for training; each employee has to be trained along a certain line of work that they are engaged in in order to become proficient.

2908 No, sir, it is not a fact that in the practical operation of these telephone companies that they go into colleges and high schools and find boys who are about to graduate out there and that they pay them wages of some kind for about two weeks, give about two weeks' training, and then those ordinarily bright boys go out to installing telephones after two weeks.

"Q. You are going to say that the bright boys all over this country who never knew anything about the telephone business before couldn't reach that degree of efficiency in four weeks, that he can go

and install a telephone?"

"A. I would like for you to show me some of them; I have never

seen one.

For the original directory I have \$7,426.00. The original directory and all directories don't more than pay for themselves in advertising; I don't know that they do. Yes, sir, I know that they don't. I have printed directories many times that I couldn't secure enough advertising to pay for them. I haven't looked up a directory here and don't know how much advertising there is in it. do not know how much it costs to print a directory. It is a fact that a great deal is covered by the advertising returns; but you have got a department that takes care of the compilation of the directory.

This brings us to the item of \$77,225; that expense is going to come in in this way; that there is no revenue whatever accruing during the first year and in addition to that while the plant is under

construction and we have the heavy expense of organization, etc., and no revenue coming in we have a deficit naturally, and that deficit does not begin to be made up for several years to come. Interest during construction has nothing to do

with it,—with the cost of establishing business.
"Q. You haven't been operating, and interest during construction salaries during construction have been taken care of, what def-

icit are you speaking of?"
"A. Yes, taken care of in this account, cost of establishing business."

"Q. Salaries during construction go into the deficit account?"

"A. You are confusing-

"Q. (Interrupting.) No, I am not confusing anything, but I am asking you a question. You have told me that you were starting in with a deficit at the beginning, because you haven't been operating for a year, and now you are telling me about salaries and about employees; where do their salaries get into deficit?

"A. There are no revenues coming into a plant of this kind until

after the operating period begins."

Up to that time I have not taken care of these expenses by supervision, engineering and overhead and interest during construction. All this overhead and charges to general expense was taken care of in the physical property itself.

"Q. And the interest during construction during that time has been paid for, so, now, when you get the plant built, what else have you?"

"A. In the first year of the period-

"Q. (Interrupting.) I am not talking about the first year, but when you actually get the plant built. Have you any subscribers—have you any salaries,—if you are considerate a little bit, we might get this up to the point of the completed plant, and both start as we want to, so let's understand whether you claim you have any losses in deficit that have got to be taken care of in that time?"

"A. I will say not."

"Mr. J. D. Frank: What are you speaking of, deficits during the development period?"

"A. Yes sir."

With reference to what the deficits are and how they occur, during the first year of the operating we began installing our telephone-, and the telephone- installed will not pay enough revenues to pay all of the expenses incident to the cost of running this business. After you start up operating, you have completed your plant and start operation and are going to begin putting in your telephones.

"Q. But you are going to get in so few telephones,—you have got twenty-seven thousand of them, your plant has been reproduced all

right, and is all built right up to the subscribers?"

A. New, there are other items,---"

"Q. (Interrupting.) Yes sir. Now, why did it take a year to begin to getting in earnings on this company's investment?"

"A. They wouldn't get any in a year.
"Q. Why not?"

"A. There wouldn't be enough installations made to make any

earnings."

"Q. Now, let's analyze there a little. You are in a city now where the people are wanting service, and you are all ready except the the installing of the office equipment, that is the subscribers' equipment. Now, you have twenty-seven thousand subscribers in the equipment you are going to install, and, you say you are going to get only a part of these in during the first year?"

"A. Yes sir."

"Q. How much of them are you going to get in?"

"A. I will probably get a third of them in." "Q. What is going to be the limitation of your getting more in, the physical impossibility, or the limitation of not having the business?"

"A. Both. During that first year, advertising and selling this

service."

"Q. What are you advertising for, when, as you understand, you are reproducing this plant under similar conditions exactly that prevail here in a town of one hundred sixty thousand population, trained into use of the telephone, clamoring for the service and can't get it-"

"A. (Interrupting.) You asked me in the previous question why I couldn't get more than a third in."

"Q. Why, couldn't you?"

"A. Because both on account of lack of plant facilities, and lack on the part of the subscribers taking the service as we expect, and you have got to advertise and go out and sell it."

"Q. What are the lack of plant facilities, what are your limitations

in that respect?"

"A. All right. The plant is built in a four year period; it isn't all completed at the end of the first year."

2912 "Q. Well, you are taking four years?"

"A. Surely, this is spread out over the period of time of

the construction."

"Q. You are taking four years to construct it, and it is then completed and the people are ready for the service, now, just tell me what on earth have you got to do,—during this period of construction you have had your contracts printed, you wouldn't wait until your plant was all constructed and then start to printing your subscribers' contracts, or getting your office ready. You will have your plant, and will have your contract forms all printed, you will have your necessary books that you are going to set up business when it comes in, and you are assuming too that there will be some contracts signed up prior to the time the plant is completed?"

"A. No sir, I am not assuming anything."

"Q. Well, you told me you were going to get the first year onethird of your subscribers. Aren't you going to start at all to getting subscribers attached until the plant is completed?"

"A. I told you I would only be able to get about a third of the

subscribers installed by the end of the first year."

"Q. Now, I want you to say why that's so?"

"A. Because I can't work my forces any faster than that, and can't get the equipment any faster than that."

"Q. You have had four years to get this equipment all here?"

"A. No, sir, I have only had a year."

"Q. Only had a year?"

"A. Yes, sir."

"Q. You knew when you started the plant you were going to have about twenty-seven thousand subscribers, didn't you, and you don't mean to say now that you are going to go ahead and complete your plant and then begin getting your subscribers' equipment?"

"A. I am not making all of this charge for the entire four years;

for a third of the subscribers,-

"Q. (Interrupting.) Not doing what?"

"A. I am spreading this over the entire four years, and am not making any specific charge for any one year. I told you when I started to give the detail of this that my best judgment from past experience was that was about what it would cost to establish this business; but I haven't worked out in dollars and cents the exact details, and now you are asking me as to what it would cost in dollars and cents in detail."

I have given the flat percentage that in my judgment would be charged for from this. I would undertake to say that it could be worked out as a problem from my figures; I believe it could be worked out very nicely, but I have not done it. I do not know from working it out and trying to get down and determine how long it would take to get the subscribers under these conditions, or how long it would be before my earnings would be up practically to full capacity; I have not determined that in detail. So then this \$777,000 finally comes back to this same thing even after I have undertaken to give the set up of the different items and applying the prices to them, it just comes back to the point that I think 20% is right, because it is what has usually been allowed.

As this plant has been building up and they have been taking on new subscribers, I do not know it to be a fact that whatever cost of advertising came about in trying to attach and acquire that business, and also the cost of installing the subscribers' phones and things like that and the cost of printing the directory

have all been paid out of operating expenses.

(By Mr. Howard:)

"Q. I don't understand you to say that you don't know that on account of the fact that you haven't concerned yourself with the books?"

"A. I don't know the detail of it."

2915 Direct examination.

Questions by Mr. J. D. Frank:

"Q. Just one or two questions I want to ask on that in connection with the matter of the issuance of the first directory. You are getting out the very first directory in connection with the opening of the plant here. Would you expect to get as much advertising in that as you would in a directory where the plant has been in operation for a good many years?"

"A. In the first directory you would very likely have mighty

little advertising."

It is also a fact that the cost of the first directory would be a

great deal more than the subsequent directories.

With reference to counsel questioning me with reference to the installation of telephones, as to whether or not it is a fact that it is a physical impossibility to install twenty-seven thousand telephones in any one year, I will say I never heard of it being done. I will say this, that one man and his helper can install on an average of about three telephones a day if they worked just as fast as possible for him to do so, you can figure out how many men it will take to do that installation work and it would be a useless expense even if it could be done and you installed twenty-seven thousand telephones ready for action.

If you installed twenty-seven thousand telephones and had them

installed on the day you opened up your plant for operation I would not expect that all of these places where I had in-

stalled telephones would actually take the service.

As to whether or not it is also a fact that just in the normal course of the telephone business people very often order telephones and then when you go to install them they change their minds, I have had that happen myself. I have signed a contract, and taken the telephone ready to make the installation and they had changed their mind about it. If you went out to install twenty-seven thousand telephones over a period of two years, before you are ready to begin operation, you would probably have at least several thousand of those who wouldn't want the service by the time you were ready to give The fact that you would not begin installing these telephones until about the time you were ready to begin operation is the general way of doing business. As to whether or not you probably would make no charge at all for the service until you had ten or fifteen thousand of the telephones installed, you see advertising by the companies, and especially where there is competition, that there will be no charge for any service rendered for a year or until we get fifteen thousand subscribers or ten thousand subscribers, that is frequently done even where there is no competition, why, the company agrees to make no charge for service until such and such a number of telephones are connected. In other words, if you installed ten telephones in business houses in a plant of this size and charged them whatever rate you charge for your service, the service would be absolutely worthless to those ten houses. The extent of the service is what makes the service valuable; the

more stations you can talk to the more readily will the prospective subscribers take the service, and if you have just a few subscribers connected with the plant, no matter what size, the service would have mighty little value, and by virtue of that fact, why, the company agrees that until we have such and such a number of stations installed, until we can give you service that will be of some value to you, we will not begin to charge you anything for this service, and it might be that it would be six months or a year, maybe eighteen months before you began charging for service. I would

just depend on conditions.

I did not intend to work this out in dollars and cents as to each item of expense that would be incurred in building up this business. If I had worked it out in dollars and cents it probably would have been more than 20%; I am sure that it would. At any rate this represents my best judgment based on my experience in the telephone business and my experience as a valuation engineer in connection with these Public Service Commissions that I have represented for years and it is a conservative estimate of what it would cost to reproduce this business.

Cross-examination.

Questions by Mr. Howard:

"Q. Mr. Player, on this last item I have no doubt there is some deficit, or some loss in this initial period of starting business,

even would be in a town of this size, if you were to build the plant up and start new, it is bound to be some cost and will take a little while to get in full swing. Now, it occurs to me that can be worked out to some little approximation, and I would like to You have already stated to Mr. see where we would come out. Frank, that one man can, with his helper, could install three telephones a day?"

"A. About that, yes."

The only limitation upon the number of men that could be conveniently employed in that kind of work in a plant constructed for these installations would be whether or not it would be economical or good business. As to whether or not a force of one hundred men would not be a terrible large force where there are a great number of people ready to take the service and ready for the service, you understand, that as you increase your force of that sort all of your other expenses increase in proportion. Yes, it would be a terrible job to get an organization of one hundred men to install telephones; that would be a pretty big job right now. One hundred men could conveniently work on the plant and would not be in each other's One hundred men would not install three hundred phones a wav. I did not state that one man could install three; I said one day. man with his helper,—you have got two hundred.

"Q. I understand that you have only got one man installing telephones but I am talking about the telephones installed. One hundred pairs then would install three hundred phones in a day, or

nine thousand a month by working on Sunday?" "A. Yes, if it would be possible to get that many." 2919

"Q. Well, then you would put in twenty-seven thousand in three months?"

"A. Twenty-seven thousand, you are assuming that, but that

wouldn't happen."

"Q. I have taken your figures and have got no fault to find with them, now, let's hear it?"

"A. Well, we haven't sold that much service."

"Q. Well, the people here are all clamoring for the service and are up there lining up for the girls to let them sign the contracts and place their names on the books; they would be there and the trouble you would have, would be that you would have to have policemen to keep them from coming into your building?"

"A. All right, let's concede they do that. Well, I agree with you

if your assumption is correct."

"Q. So there would be about three months where they would be a probable loss of returns?"

A. No. I am only agreeing-

"Q. (Interrupting.) Or one and one-half per cent on the investment?"

"A. No, I am only agreeing with you from the assumption that we are going to have all these men here at one time and all of the instruments.

"Q. Well, that is going to be a fact."

Mr. D. A. Frank: Why not assume that you will have fifteen thousand at work and put them all in in two days. 2920

Mr. Howard: Well, they could do it in three months. Well,

we can figure the loss in earnings then.

Direct examination.

Questions by Mr. J. D. Frank:

If I were to start out today to get one hundred men to install telephones I have no idea in the world where I would get them; I do not believe it could be done at all, an absolute impossibility. I know that that kind of labor is scarce and that all companies have a hard time in carrying on the business that they have. know this that if this company could get the men to do the work that the applications that are in this office now for service would be put in immediately instead of having to wait, they just can't get the help and that is all, and they are losing revenue, as a matter of fact, the installation of the telephone is only one very small step in connection with the preparation of the physical property for furnishing service; that is true. You would have to have other mechanics working in your central office, on your cables and things of that kind in order to actually furnish this service after the telephones were installed, not only that, but your operating force and clerical force and everything that goes to make up the giving of the service. As to whether or not one hundred men would get in each other's way on the switchboard, I will say I never saw more than fifteen men on the largest installations at one time.

I have not figured out in this case how much taxes would have to be paid during the construction period; I do not consider that I have covered that in any phase or any part of my appraisal, haven't made any allowance for that at all, except in the cost of establishing business under this item No. 6. I mentioned

taxes.

Mr. Howard: We are willing to allow that.

Instead of figuring out what the taxes would be during the construction period I figure that is included in the 20% allowance for the cost of establishing business; it has always been considered part of it where I have had anything to do with it. I may be right, or may be wrong, I do not know.

With reference to the final figures that I get on the cost of reproducing this property in Houston, the figures shown on page 1, line 18, as the grand total under the column "C". "N" means the cost new is six million one hundred and three thousand,

three hundred and eighty-four dollars; under the second column headed "C". "L". "D"., meaning cost less depreciation, five million five hundred forty-two thousand, eight hundred fourteen dollars. That is based on the five year average prices from 1914 to 1918 inclusive.

I am familiar with what the original cost of this property was as shown by the books of the company, and am also familiar with the gross additions which have been put into the plant during the last nine or ten years; I have seen those figures — I am also familiar with the net additions which have been put into the plant during

the last nine years; I have seen those too.

With reference to the proposition of how much will probably have to be spent in the matter of extensions and so on in the next eight or ten years, in going over the plant generally, in talking with different business men as to the future prospects of Houston, considering the increase in population, the number of factories that are going to be put up, and will be put up, the general extensive business that will be indulged in and enjoyed in this town, in my judgment, I think you will have to spend in the neighborhood of three millions of dollars within the next ten years in order to supply the service desired.

I am familiar in a general way with the financial history of the plant and how the property has been built up since along about 1901 as shown by Mr. Scott's exhibit as to the property account.

From the study which I have made of this community and the conditions in this community I would say that there is a need for a larger plant; there is great need for a larger plant than the one that you have here now. From the studies that I have made I would say that there will be an increase in the demand for telephone service in this locality, owing to what appears to be the reasonable increase in population, building and so forth there will be. Basing my opinion on the studies which I have made with reference to this community and the plant and its location and so on, it is my opinion that this plant is capable of earning money under normal conditions and circumstances; a telephone property in a town the size of Houston should under normal circumstances earn money. In my opinion it has at least a potential

earning capacity.

I have made such a study of the plant as to familiarize myself with the plant itself; I have been all over the plant. In my earlier testimony I stated that it was one of the best constructed plants in the country, it has been maintained, was well engineered, that there was nothing connected with this plant that wasn't what would be considered first class in every respect. I would say that the plant is favorably located. I think that the plant has been well engineered and is taken care of in an efficient manner at the

I have given some study to the history of this community; I have talked with people as to the prospective growth, and the growth in the last few years. The history of this city with reference to growth is that it has been rather a fast growth. Approximately the population at the present time is about 160,000. From the study which I have made, the prospects for this city with reference to future growth are very great; there are more industries coming into the city, more factories being built. This municipal port that they have opened up will have a tendency to increase business which, of course, in turn, increases the population, people have to come here to take care of this increased business, and I believe the town, the city will increase very rapidly. It is not at a stand-still by any means.

In arriving at my estimate of the value of the property constituting the Houston Telephone plant I have given due considera-

tion to all of those facts.

"Q. Basing your opinion on all of these facts, such as the original cost of the property as shown by the books, the cost of reproducing the property in its present condition, taking into consideration the size of the plant, the character of the plant, its location, the past history of this community, the future prospects for the city and the prospects of this plant for earning money under normal circumstances, what, in your opinion, in dollars and cents at the present time is the value of the property, constituting the Houston plant of the Southwestern Telegraph & Telephone Company."

"A. Irrespective of this appraisal that I have made on a five year average, I would say that the value of the plant today would be no less than seven million seven hundred thousand dollars in round figures; that would be the present condition of the property."

Cross-examination.

Questions by Mr. Howard:

I made this appraisal as a measure of what it might cost to reproduce this property on the basis of using five year average prices. As to why I took those five year average prices, going back to the first two pages of the record of my testimony, you will see that this com-

pany when they asked me to make an appraisal of the property, that I had no instructions as to how to do it, or anything in connection with it except that when I finished any

thing in connection with it, except that when I finished my report I should submit the report, and I have been familiar with material prices and labor and have been doing this class of work for the last ten years on a five year average price basis and so adopted that procedure in this case. I thought that was about right as to the reproduction on a five year basis. I thought that was about the way to get at a proper appraisal of the plant.

"Q. All right. Then you got an appraisal of something like four million dollars, and you added to that something for overheads, I believe, then you added on something for working capital, you added on something for stores and supplies, and you got something

like four and a half million, didn't you?"

"A. No sir, adding the matter in of what you had stated there, I got about five millions."

"Q. Got about five millions. Then you depreciated the plant and considered about eighty-five per cent condition and that runs through all your figures?"

"A. No sir, I gave my estimate of that, 88.7% condition."

"Q. You never figured it out to see?"

Mr. D. A. Frank: 87.8.

"Q. Have you figured it out to see what it is?"

"A. It was 88.7."

Mr. D. A. Frank: Well, I was wrong.

I consider that the depreciable part of the plant should be depreciated to the extent of eleven and a fraction per cent; I found what the condition per cent of the property was. I got the 2926value of the physical properties, then depreciation, after making this return, of this appraisal in the way I thought was fair I got four million, seven hundred twenty-one thousand four hundred and fifty-nine dollars for depreciable assets new. I have the depreciated value appraisal of cost less depreciation of the whole

property but do not show the other subdivision. "Q. But, anyhow 11% would be something over four hundred thousand dollars and would bring it down to approximately how

much?"

"A. Well, I can figure it for you."
"Q. Well, take 10% off, you can do that quicker, probably do that

in your head?" A. Well, four million three hundred and fifty thousand dollars."

"Q. Four million three hundred and fifty thousand dollars, physical property value. Then you add the other things, and get it up, including in round numbers a million dollars for going concern value and you get a final figure of about five and a half million."

"A. Get a final figure of five million, five hundred forty-two

thousand, eight hundred and fourteen dollars."

"Q. That included physical plant present conditions, working capital, included all the contingencies, including overhead, everything that you thought of under contingencies, and included the working capital, included this million dollars going concern, that we haven't been able to figure out. Now, what do you omit in getting the final figure of five million five hundred thous-

2927sand dollars?" "A. I have omitted using any present day prices on ma-

terials and labor."

"Q. But you have already told us that wouldn't be the fair thing to do for appraising this property for the purposes of this case. You have told us that the fair way in your judgment would be to take the five year period and strike an average?"

"A. I said that was my opinion; that I was doing this as I had

done it in the past."

I think it represents the reproduction cost, less depreciation on that basis that I had worked it out. I thought that the fair way

because when I was told to make an appraisal and bring it in here for the purpose of enlightening the court I took that method; I

think that was fair on the basis that I worked it.

I have not given any study to what the value of the plant should be for rate making, but think the present value of the property as of today would be seven million seven hundred thousand. That would include the advanced or the present day prices and every-

thing.

"Q. Do I understand that you mean to tell the court that to reproduce the property in the same way you have it here would probably cost seven million seven hundred thousand dollars now, and in your report, in the way you thought fair you say it would be five million and a half; the cost item seems to have been

ignored?"

2928

"A. I wouldn't say just that for this reason, when I started making this appraisal the year of 1919 was not ended, and I used the prices for material that I had and was familiar with, which was the average price for five years, 1914 to 1918, inclusive, leaving out the 1919 prices. If I were at work on it today on another year, I possibly would include the 1919 prices."

I very probably would include them. I did not include them in the first appraisal; the five years I used were 1914 to 1918 inclusive. If I made it today I very probably would take 1915 to 1919 inclusive, and if I was going to reproduce its cost value today I would

use 1919 prices.

"Q. But for the purpose of rate making you considered the average the fair way to get at it because that was the method you originally adopted?"

"A. If you want my opinion as to what the figure should be for

rate making purposes-"

"Q. (Interrupting). No, I don't want that so much, Mr. Player, as I did your opinion at the time you made this appraisal, that you made it for this five year average period, because you considered that fair, is that true?"

"A. I considered it the fair measure of what the value of this

property might be."

"Q. That was for the purposes of rate making, you understood that, at the time?"

"A. For the purpose that was desired."

2929 "Q. Now, Mr. Frank enumerated in the things yesterday the information that you followed with reference to the original cost and that considering prices and asked your opinion of what that was. There was nothing in the original cost figures that induced you to raise the value above five and a half million, was there?"

"A. Oh, no."

The fact of the matter is that is considerably under that figure. In this inventory that I went over and checked up the per cent for the purpose of this plant I did not determine any percentage of the properties that were being used for long distance tolls.

I did not eliminate any items from the physical properties that

I found in the inventory. I took Mr. Hoag's set up in that regard just as I found them, because all of the property is in the exchange that is used and is useful in the operation of local service, as I understand it, is included. I checked the inventory over and found no property that should not be included. Practically none of the items I have included in my appraisal are used for long distance business exclusively. The whole plant is used for long distance service and at times becomes part of the local telephone exchange, but the exchange is renumerated for any expense it is put to for that purpose. There is an item of payment to the local exchange for any expense that it is put to relative to running the long dis-

tance service. I did not audit those accounts but know from past experience that has been done. What has been done in this particular instance I do not know because I have never

investigated it.

"Q. Just one more question. On page 41, Mr. Player, you will notice down there under this account, 15-C, the last item 15 No. 546 coils, what are those used for?"

"A. Those coils are used in the transmi-tion of messages, that is, that is called a loading coil guys equipped with 15 No. 546 coils on

a trunk cable."

All of the trunk cables between offices have loading pots, what are called loading pots. These, as I understand it, are used for local purposes. That is a great big iron,—what is called a pot, a loading pot and those records and those charges are gotten from the records of what those pots cost.

Direct examination.

Questions by Mr. J. D. Frank

I have the final figure here on page 1 of my summary as reproduction cost new less depreciation, as five million five hundred forty-two thousand eight hundred fourteen dollars; I did not mean to say by that that was the value of the property, I explained that by saying that that was the cost less depreciation on the property figured on appraisal of five year average prices, that it would not repre-

sent the value of the property in any sense of the word, for 2931 the simple reason that the prices have increased anywhere from thirty to forty per cent over the five year average, and if you are going to reproduce that property today to get the value of the property, not an appraisal, but the value, it would show a

figure, in my judgment of not less than seven million seven hundred thousand dollars. In my opinion it would be worth at least what it would take to reproduce it taking into consideration the present condition of the property.

"Q. Now, Counsel has questioned you with reference to certain

parts of the property used for long distance purposes as well as local purposes and you stated that was taken care of by certain allowances to the local exchange. Do you know how much is usual to allow the local exchange on account of long distance arrangement?"

"A. That matter has been gone over to my certain knowledge in over one hundred cases in which I have participated in, and an

allowance of 25% is the standard allowance."

That is the allowance made by the Oklahoma Public Service Commission, and the Missouri Public Service Commission. I know from my connection with the Commissions that they have made an allowance of that kind in nearly one hundred cases,-in over one hundred cases that I have been connected with. The contention was not made in any of those cases that the 25% was too low, or that more should be allowed than the 25%; it has always been the fixed amount, and the Commissions recognize that as a fair allowance

and allowed it in various cases. At one time, several years ago, as low as 15% was being paid, and the Commissions raised it to 25%. I know whether or not that is the allow-2932 ance made by those Commissions at the present time; I know that

they allow that.

Cross-examination.

Questions by Mr. W. J. Howard:

"Q. You, as an engineer, Mr. Player, have never tried in all your long experience on Commissions, have never tried to work that out to see whether that was an arbitrary allowance, or whether it would bear some relation to the service rendered by the respective companies, the long distance and the local exchange, never went into that, Mr. Player?"

"A. I can say that with every telephone company in Oklahoma that I made a specific set up as to the cost of handling the long distance business by the exchange and as to what commission should be paid, and it ran higher than 30%. In some cases they asked for an allowance of as much as 50% for handling the long distance business, but the Commission found that 25% was an equitable

"Q. But they did raise it from what they had been allowing, 15%?"

"A. To 25%".

"Q. My question is, Mr. Player, whether that Commission, or whether you as their engineer at any time ever got the idea by working it out, something upon a partnership basis, where they are

joint enterprises in handling the messages as to what portion should be set aside to each. Whether you ever tried to work

it out that way instead of taking the local exchange and just paying it enough to pay for the expense it was put to in handling this long distance business. Have you ever tried to work it out with a view of letting them participate in the profits of the transaction?"

"A. No sir; I have only had experience with it as I told you."

Just compensated them for the expense of doing it.

Direct examination.

Questions by Mr. J. D. Frank:

The most of the property used in long distance calls is property outside of the city; you have got thousands of miles of poles, wires, and things of that sort used in connection with each long distance call; the equipment within the exchange is a very minor part of it.

2934 The qualifications, experience, etc., of the Witness, C. A. Gates, are set out herein at pages 237-244.

C. A. Gates, a witness for complainant, being duly sworn, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

I have not made an inventory of the property constituting the Houston telephone plant. I have made an appraisal of the property constituting the Houston telephone plant of the Southwestern Telegraph & Telephone Company based on an inventory that was made by the company through Mr. Hoag. The book you hand me is the inventory. That is a copy of the inventory that was given me as representing the inventory made by Mr. Hoag, representing the property in the city of Houston. Plaintiff's Exhibit # 13, Inventory of Southwestern Telegraph & Telephone Company's Exchange at Houston. I had a true and correct copy of Plaintiff's Exhibit # 13, which I took as the quantity of the property. I accepted that as being the quantity. I am familiar to a great extent with the property in the city, having built the larger part of it, either directly or indirectly, and, of course, know it cannot be very far off.

2935 In making the appraisal of the property constituting the Houston telephone plant I first built up a set of unit costs and determined what each part of the distributing system would cost to build. I have here a set of unit costs which I have prepared.

In getting my material prices and my labor costs I took the records of the company showing the prices that had been paid for material for the first nine months of 1919 as a basis for most of my prices. Where those prices had changed materially, where they were not fairly representative of the prices that I thought would obtain while this plant would be built, I secured prices where we did not have the prices,—I secured prices. In other words, for my material prices I have taken the average prices for the first nine months of 1919, just as far as those prices were obtainable or were representative.

With reference to labor, I took the prices that were being paid in the city of Houston for that labor during the last half of October,

1919.

I said something about the time during which this Exchange would be reproduced and was referring there to what is known as the economic construction period. As to how long I figure it would take to reproduce this Exchange, I would say that it would take three

years to get your Exchange in operation with half of your subscribers. As to why I am taking three years as the time necessary to reconstruct the property, having built this property, I am

rather familiar with the time required to actually install what is here today, and I have also considered the conditions as they exist today as varying from the conditions under which I built and installed the present exchange. I have also talked with contractors as to the probable time required to build the building. I have studied the situation as a whole, and taking all things into consideration, I think that three years would be the most economical To start with, one would have to determine where they would want to build this exchange new, and then some study by an expert as to whether or not the exchange would pay—whether it would,-whether the town would be a desirable town in which to invest money. After these facts were determined a study would have to be made somewhat on the line of what we call a fundamental study, fundamental plans, you would have to determine where the subscribers could be secured, how many subscribers could be secured, where would be the economical point to build the building, build your exchanges, how many buildings would be needed. That would all take some time, and that, in my opinion, would be about two months; the proper force could determine about where you wanted to buy your lots, buy your land. It is very common practise with us to lay out your switchboards, your apparatus floors, and build your buildings around them. The Preston building was built in Our building laid out and engineered before the that manner. plans went to the architect. Our switchboard was ordered and I estimated that that could be done in this way, that in order to do the job in three years it would be necessary to order your switchboard about the time you started your plans in the hands of your architect, and that during the period they required to build the

2937 buildings, which in the case of the Preston building, under existing conditions would probably be about thirteen or fourteen months, the manufacturer could build the switchboard, and when your building was finished your switchboard could be put in, and probably one year would be required to install it. During the time your outside plans could be engineered and the work started, and by the time your switchboard was installed your outside plant would be very well along, and probably at the end of the three-year period, in fact, perhaps two or three weeks in advance of that time, according to the schedule that I have drawn up, you would have your plant ready to operate with one-half of the number of subscribers that you have here today. I think that would be probably

the most economical period in which to build the plant.

What I would want to do is to construct the plant without having to go to extra expense on account of rush work, would not want to rush it; would not want to build it in pieces. You would want to build it as a continuous job in order to get the most economical

construction.

In arriving at my unit costs and considering the prices which you would have to pay, I have not proceeded on the theory that you would construct this plant in piece-meal fashion, do it on a whole-sale basis. The prices are all on a wholesale basis, the idea being to start the work and carry it along just as nearly as possible as a continuous job, and not have a lot of idle time, and a lot of men standing around, or a lot of plant lying idle eating its head off with interest.

2938 I have taken the average price of the first nine months of 1919 as the prices of material because I think they will come nearer being the prices that you would have to pay for the material that would go into the exchange constructed in the manner that I have outlined. What I was trying to do was to determine what we would have to pay for materials during the construction period. Now, the chances are that the prices would go higher for the first nine months, because some of the materials have gone up since that The prices that I have used are just a little bit lower than the present-day prices, and I would say this, that in order to build this exchange within the six-month period, or within the three-year period, it would be necessary to either buy or contract for the great bulk of the material that goes into this property within the first six I have used present-day labor costs because they are certainly the lowest costs that I can expect to build this exchange with, and they are probably not what they would be. Every bit of labor in the country is going up in price, and it does not appear that with the demand that we would have to create for labor here in order to build this exchange that we could get labor for even present-day prices, certainly not any less than that. In my opinion, it is the very lowest figure that would be safe to consider.

In a general way I have made a study of the past history of prices of materials that enter into a telephone plant of this size. I am familiar in a general way with the prices of materials, how they have fluctuated in the past and what increases there have been. I am familiar in the same way with the present-day prices of these materials; that is, the tendency. With reference to the his-

tory of the prices of materials that enter into the construction of a telephone plant of this magnitude, during the last ten or fifteen or twenty years has been a general upward trend, throughout the entire period that you mentioned. I think that statement is true with reference to the time prior to the beginning of the European war in 1914. I think there has been a general upward tendency, but it has been more marked the last few years. I do not think that the increases in prices in the last few years have been due entirely to the world war which we have gone through. I think there has been a general upward trend. I think without the war prices would have gone up. I think the war has had its effect. I don't think there is any question about that, but the war closed with the Armistice practically and yet prices have continued to go up.

From the study and investigation which I have made with reference to prices I would not expect any appreciable reduction in prices of materials during my construction period. As I have pointed out, practically every dollar's worth of material that goes into this plant

would have to be bought within six or eight months from the date that you decided to build the plant in order to get the material to build the plant within the three year period. Disregarding the fact that you would have to purchase the material within the next six months. I don't see any indication that there will be any appreciable reduction in prices of materials in the next four or five years, in fact, I see indications to the contrary. Everything you pick up, every daily newspaper, is filled with demands for increased wages.

2940 I noticed an article in the Associated Press vesterday morning where the trainmen were asking for an increase of 44% and and 30%. I think the average is probably around 38%. There is not a newspaper you pick up that people are not asking for more money. I believe some of the city employees here are asking for increases; the school teachers are asking for increases, and the labor situation is such that they are in better situation to get these increases than ever I have not overlooked the policemen in Houston; the policemen are very much interested. Just follow the daily newspapers, some of the articles on labor; here is the Houston Post of January 26th, "Hearing between trainmen and Hines postponed. train men now getting \$4.00 a day are asking for \$5.77; a 44% increase: through train men now getting \$4.08, asking for \$5.88, 44% increase; local freight trainmen now getting \$4.48 are asking for \$6.28, a 40% increase; yard foremen now getting \$5.33 asking for \$7.20 or a 35% increase; yard helper now getting \$5.00, asking for \$6.90, a 30% increase, a switch tender now getting \$4.00 asking for \$5.90, a 471/2% increase.

As to the effect that high labor schedules have on the prices of materials, I should figure, that probably out of material that goes into the telephone plant somewheres around 60% is represented by labor manufacturers and 40% is represented by raw material, and as long as we have a high wage schedule I expect no reduction in prices of Take for instance, switchboard cable, which is copper cable, and a change in the price of copper makes a very small change in the cost because the value of the silk or cotton in the insulation is

the largest factor and with cotton 39 to 40 cents a pound, as it has been this fall, is the biggest factor, and on top of that comes the labor.

Cross-examination.

Questions by Mr. W. J. Howard:

I stated that \$3,800,000.00 in gross additions to this plant was spent during a certain period of time; that period covered 1910 to 1917, inclusive, and it might be interesting to say that in that period \$950,000.00 was spent for Central Office Equipment.

In the set-up I did not include the full purchase price for the Home Telephone Company, this represents just the material, -just the

physical property.

In assuming here that I am going to construct a plant in a threeyear period, which is quite a long time, and a big plant with several exchanges and 27,000 subscribers, I do not contend that we have to get that plant fully completed before we could render any service at all, but you would have to get enough of your plant completed to give a service that would be of some use to your subscribers, so as to give a comprehensive service to your subscribers, in other words, there would be no use to connect up ten, one hundred or a thousand stations, as a matter of fact, the economical plan would be to go ahead,

if you were going to rebuild this plant and built it as soon as 2942 soon as you could conveniently and that period seems to be,

from studies I have made, about three years, and you would have everything in there then, except your subscriber's stations. During the time that you were installing your switchboard you would

also be building your outside plant.

"Q. Then when you get your switchboard in, and had your building built, and your switchboards in, you would have considerable cable laid out, and a good deal of wires and construction done for quite a distance out, and there would be no objection to your connecting up a good many subscribers as soon as your switchboard was installed?"

"A. Well, you would not have your entire plant probably in shape to connect up very many subscribers, and to do your work you would

have to educate all your operators and people.'

It could not be handled contemporaneously with your building in some places; you do not have to get your switchboards to educate them up; you can put your school in so that you could do it. You might put in a school board. It is to measure this thing about like this: I have divided the period up into quarters, and during the first quarter there would be nothing to operate; on the amount purchased during the second quarter 10% of the full plant would be built; 14% of the underground conduit would be built; during the second quarter 10% of the Preston building would be built; during the third quarter 25% of the pole line, making 35% would be finished, and we have in our exhibit a complete set up showing just how that thing would go along. Up in the third quarter we

would get 25% of our pole line and 39% of the conduit; we would also get 10% of the Preston building. That will all

appear in the appraisal as it goes along.

Direct examination.

Questions by Mr. J. D. Frank:

I have prepared an exhibit showing unit costs and material prices that I have used in connection with my appraisal.

Mr. J. D. Frank: We offer that in evidence as plaintiff's exhibit

The exhibit offered was thereupon received in evidence, plaintiff's exhibit #37, witness C A. Gates, and is transmitted herewith in the Exhibit File.

With reference to just how I built up my unit costs and material prices, let's take a pole for instance on page 2, the first item is a 35

foot, class B pole. The pole only is \$11.89. That is the price at Escanaba, Michigan. That is where we get the poles from. The next item is the freight on that pole from Escanaba to Houston which is at the rate of 53 cents per hundred weight plus 3% war tax. I got that rate from the Railroad Administration; that is based on a weight of 650 pounds and amounts to \$3.55, making a total of \$15.44, and to that we have added supply expense, amounting to 7%, \$1.08, making the total cost F. O. B. Houston, \$16.52.

Supply expense covers the cost of handling the poles as a supply item until it is turned over to be used; covers the cost of all employees engaged in handling it in the pole yards, less shrinkage while in stock as a supply item. Including the supply expense

I get \$16.52 as the cost of the pole in Houston.

As to what one of these poles cost in place, on page 7, is the labor cost based on the average cost of setting a pole in the city of Houston, using the labor costs as they were in the latter part of October, 1919; also incidentals, including teaming, distributing and other miscellaneous expense items, not covered in materials and labor being 75 cents, and being a total of \$5.85. That figure there, \$5.85, plus the total material cost of \$16.52 represents the cost of one of these poles in place, but does not include the taxes or interest during construction and other items of that kind. That is without the overhead, doesn't include the cost of engineering either. In building up the unit prices, I have not applied any overhead, but have simply included the supervision up to the actual job.

I have prepared an appraisal of this property.

Mr. J. D. Frank: We offer this in evidence as Plaintiff's exhibit

#38.

The appraisal was thereupon received in evidence, marked: "Plaintiff's Exhibit 38, witness C. A. Gates," and is transmitted herewith in the Exhibit File.

applied them to the quantities shown in the inventory. On the first page of my appraisal is the summary of the appraisal. The first item is the reproduction of the land, \$210,850.00; that is shown in detail on pages 6 to 9, inclusive, and 46 to 49 inclusive,—the blue prints are on pages 46 and 49 inclusive. On pages 6 to 9 I set out the values and on pages 46 to 49 are the blue prints of the various lots of land. In appraising this land I secured the estimates of two Houston real estate men, and those estimates I have included.

On page 6 is a summary of these estimates, and my estimate after considering the estimates of the two real estate men, and making inquiries about property values in the neighborhood. In fact, the values used represent my judgment after getting all available infor-

mation I could about the price.

On lot No. 8, Block No. 3, Fannin Street between McGowan and Dennis, W. L. Dennis appraised this lot at \$3,500.00; W. G. Burchfield appraised it at \$4,000.00; I used \$4,000.00.

Lot No. 12, Block No. 3, on south side Dennis Avenue, 100 feet

east of Fannin used for Hadley Central Office, Mr. Dennis appraised that at \$5,000.00; Mr. Burchfield at \$3,000.00; I used \$3,000.00.

Lots Nos. 11 and 12, Block No. 247, northwest corner of Harvard and 8th, Houston Heights, used for Taylor Central 2946 Office, Mr. Dennis appraised at \$3,200.00; Mr. Burchfield at

\$4,000.00; I used \$4,000.00.

Lots No. 11 and 12, Block No. 23, northeast corner Harrisburg and Yoakum, to be used for Harrisburg Central Office, Mr. Dennis appraised at \$4,000.00; Mr. Burchfield appraised at \$4,500.00; I used \$4,000.00.

Lots 1 and 2, and half of lot 12, Block 650, southeast corner Texas Avenue and Roberts Street, used for storage purposes, Mr. Dennis

used \$3,350.00; Mr. Burchfield, \$3,000.00; I used \$3,350.00. Lots 1 and 2, half of lot 3, half of lot 11, Block 70, southwest corner Capitol Avenue and San Jacinto Street, used for Preston Central Office, Mr. Dennis' appraisal of \$185,000.00, Mr. Burchfield, \$200,000.00; I used \$192,500.00. That figure of \$192,500.00 is the

mean between the two estimates.

My next item of material is buildings, \$535,081.00. On page 10 is a summary made up as follows: page 10 shows the Preston building, \$394,212.00; the Hadley building, \$75,857.00; the Taylor building at \$39,551.00, a total of \$509,620.00 to which has been added 5% for Architect's fees making a total \$535,081.00. the details on that. On page 11 is a letter from A. W. Allen, General Superintendent of Fred A. Jones, transmitting the estimates. That is, I had the Fred A. Jones Company make an estimate of what it would cost to reproduce those buildings. I selected the Fred

2947 A. Jones Company, because the Fred A. Jones Company built the Preston building and built the Taylor building, and I found that they had in their files the original quantities that went into those buildings, and I thought they would be better able to make

a fair estimate than anybody else.

Mr. Duls: If the Court please, Mr. Allen here is our next witness; Capt. Allen is head superintendent of the Fred A. Jones Building Company of Dallas. We have asked Mr. Allen to come down to Houston for three reasons: First, when Mr. Hoag was on the stand, counsel for the City,-I think it was Mr. Howard-intimated that he had used the figures of the American Construction Company on the Preston Building as the highest reproduction figures that he could obtain, and that he did not ask the people who actually constructed the building for their estimate and use that. Now, the Fred A. Jones people built the Preston building, and we have asked them to give us their best judgment as to what it would cost to build or reconstruct that building today, and Mr. Allen will tell us about Now, the second reason we have asked him to come down to Houston is so that Your Honor may have the opinion of the people who actually constructed the two buildings which the company uses here in Houston-the Preston building and the Taylor buildingas to what they think it would cost to reproduce the building, if they were going to construct it today; and then also offer their estimate as to the third building which the company owns here, but 2948 which they did not construct, based on the plans and specifications which were used in the actual building of that building. And the third reason, of course, is because Mr. Gates has used the estimate which the company with which Mr. Allen is associated has made in his appraisal, and we wanted to give your Honor and counsel for the City an opportunity to ask him any questions in reference to these estimates that you might have.

The Master: Mr. Allen, you may be sworn.

ARTHUR W. ALLEN, a witness for the complainant, after being duly sworn, testified as follows:

Direct examination.

Questions by Mr. William H. Duls:

My name is Arthur W. Allen; at the present time I live in Dallas, but I travel a good deal, so I have no fixed place that I claim as a residence. My business is that of Superintendent of construction and estimating and I am connected with the Fred A. Jones Company who have their headquarters in Dallas. They do all kinds of commercial buildings, industrial buildings, and occasionally some dwell-

ing houses of high grades. Their operations are confined to Texas. The position I occupy is that of General Superin-

tendent and Estimator.

With reference to my duties as Estimator for the Fred A. Jones people, when plans and specifications are secured we make the survey of all quantities and tabulate them and then add the current prices for labor and material to them, making up the complete estimate. Our purpose in making these estimates is to arrive at a very close cost on the work contemplated. We make them for the purpose of bidding on the work and securing new contracts.

"Q. I wish you would tell the court what training and experience you have had that enables you to qualify in making these esti-

mates?"

"A. I started out and learned the carpenter's trade-

Mr. Howard: There is no use going into all that detail and encumbering this record. We will just admit that Mr. Allen has had experience enough to understand his profession.

Mr. Duls: You admit that he is qualified then to testify as to

what it would cost to reproduce these buildings?

Mr. Howard: Yes—we don't admit it, we assume he is a man that is qualified, his position would indicate that.

Mr. Duls: All right then.

I am somewhat familiar with the telephone buildings, which the Southwestern Telegraph and Telephone Company owns here in Houston; I am very familiar with the Preston Building; the 2950 others in a general way only. Our company constructed

the Preston building and also the Taylor building.

I have made an estimate of what it would cost to construct the

Preston building today.

The figure which I finally arrived at for the Preston building, the cost of constructing it was \$329,023.00. That figure does not include the heating and plumbing and wiring and the other matters; it includes only what we do as general contract,—general work of construction.

I have made a similar estimate as to the Taylor building and the

figure I arrived at for that building was \$34,622.00.

I have also made an estimate of reproducing the Hadley building

and the figure I arrived at for that was \$67,488.00.

These figures do not include any architect's fees, and in making these estimates I went about it in exactly the same way that I would if I were going to bid on a job. I could say that it took me at least four days to make the estimate on the Preston building; on that particular building we were fortunate in having all of our revised quantities that we used at the time the building was built to refer to. We had the same thing on the Taylor, but on the Hadley they were made from plans and specifications only. We have those figures in our office in Dallas and they could be checked by the City at any time.

2951 The estimate of the Preston building was made about November 15th, and that of the Hadley and Taylor about

December 1st, 1919.

If we were bidding on this job to-day we would not accept the contract on the figures I have made without checking them through very materially, because there has been a very material rise in material prices since they were made, on all material,—in fact, labor and material. I absolutely do not see any prospect of the price of material going down. There is no reason to expect that the price of labor will go down.

As a contractor engaged in the contracting business I have only in one case known wages to take a general decline; the panic in California,—when the 1907 panic hit there, why, labor practically ceased, and then the labor unions would work for whatever they could get for the time being; that is the only case. I mean that it takes a panic or an absolute cessation of demand for mechanics.

"Q. Yes? Well, now, in making them up, what did you finally

use as a check on the figures which you have arrived at?"

"A. We—from our past experience, we are always armed with what we call cubic foot prices, by referring back to some building we have on record cubic foot prices we have used, and we accordingly check the building in hand at the time by some previous prices."

To-day the first class buildings are running from 60 to 65 cents

a cubic foot.

2952 I have made an estimate of what it would cost to reproduce these three central office buildings here on a cubic foot basis. The figure I arrived at on the completed Preston building, which takes into consideration, the heating, wiring, plumbing, and everything that would make it a completed building is, \$394,212.00; that on the cubic foot basis is 62.7 cents. The same figure on the

Hadley building is \$75,857.00; the cubic foot basis on that is 54.2 cents; the Taylor building is \$39,551.00 and that is 56½ cents a cubic foot.

As to whether or not telephone buildings require a certain amount of better constructions than ordinary buildings, I will say the Prestor building is built with the intention, or with the floor loads calculated on the basis of 75 pounds to the square foot for the first floor and 150 for all the floors above, just double the average floor load,—in other words, these floors are designed to carry double the load ordinary office buildings. They are built from the standpoint that the construction has to be a great deal better built than an ordinary business building, much heavier in construction—steel, and in the footings.

Mr. Duls: Your Honor, I might just state, to clear up that firs point, that Mr. Hoag's estimate was \$394,560.00 as the record shows and Mr. Allen testifies that the figure at which they would reproduc the building is \$329,023.00. That is all.

Cross-examination.

Questions by Mr. W. J. Howard:

2953 When contractors are figuring on buildings where the have in view the construction of a building on a building of this size, they often vary very considerably; there is a variation.

It is the custom for constructions companies to enter into a writte contract to construct a building, a contract of some sort, and ofter if they are not very responsible, they are required to give bond.

"Q. I do not know whether that is your custom or not. Now, you were to build a building like the Preston building and yo applied to your company and got this figure, at \$329,023.00, an another reputable and responsible building company agreed to buil it for less figures, agreed to build it for \$35,000.00 less, which bi would accept?"

"A. If I was the telephone company, do you mean?"

"Q. No, sir, if you were the owner?"

"A. If I was the owner?"

"Q. Yes, sir, if you were the owner?"

"A. I would weigh that low bid very carefully at the presentime."

If we are building it by a reputable construction company the will give bond for the building of it, if the man that was low has the commercial rating and backing and standing in the building world, and was building it on the lump sum basis, I should sure use the low bid.

Our company built this building and I can tell you approximatel the cost of that building, what we built it for, I can tell you 2954 the bid, I believe; it was \$149,900.00 and something. The

is comparable to \$329,023.00 that I suggested just now.

Questions by the Master:

The inside timber in this building was all quartered oak. I think that the lumber market will continue to rise. I do not think the lumber market is out of proportion with other things, not in the least.

Redirect examination.

Questions by Mr. Wm. H. Duls:

I think prices will continue to rise because there is a big domestic demand all over the country and lumber—there has been no steady improvement of it for the last year—for instance, we get a price to-day, but if we figure a job two weeks from today and use those same prices, we are several dollars out of the way, sometimes several dollars a thousand even; just as a sample, I will state that the big door manufacturers today are the Payne Lumber Company, the Brown, the American and those people,—will not accept orders for doors—those are panel doors, similar to what they are in the telephone building, and guarantee any delivery, neither will they make a price upon them, and if you place an order you may get those doors, say in seven or eight months, nothing under that, and at prices current at the day of delivery. That is the condition of the building business today.

I absolutely would not take a job constructing a building like the Preston building on a lump sum basis. The basis I would take it on would be a fixed fee, or on a commission basis, that is, a cost-plus basis; we might use that cost-plus on a sliding

scale, but it absolutely would not be on a lump sum basis.

A "sliding scale" basis means that we state prices in the first place based on estimate, and for every dollar we saved we would draw a certain per cent on that, which would be added to the fee; for every dollar over that we would lose a certain per cent of it down to the limit; in other words, we should have a fixed fee we would get, and then the sliding scale would increase that fee or diminish it down to that as the building was built, more or less, than the estimate.

Recross-examination.

Questions by Mr. W. J. Howard:

I say that I would not take contracts now, not on a lump sum. The fact is that this is a period that is so abnormal in building experience that you do not know what to do, and do not know how to contract yourself, or how to act and the only safe thing is to get cost plus a certain per cent. As to whether prices are going up or coming down, of course, that is a thing that absolutely rests entirely

in doubt. A panic, or disorganization in the banking world would tend to disturb these things very much; might cause

a great drop in all things.

"Q. Did you read, Mr. Allen, here a few days ago, when the report

of-I don't know just what, you may recollect it better than I dohow some commission was sent over by the government to Europe, and came back with some report, and predicted a very dreary outlook for our financial-or radical changes in our manner of financiering within a short time?'

I noted that there was such a report, yes, sir."

A thing like that that would upset things to a great extent might affect a rise or decline of material. At the present time, though, as we experienced in Dallas and many other cities in the North around the manufacturing centers, there is a great shortage of houses. It is possible that that is due to some extent to the known cause that for two years practically all building and construction in that regard or of that nature was suspended, but there was a shortage of houses before that; there was some shortage of houses but it has been very marked since then. It is possible that that shortage could be caught up with by overbuilding if you could get material and labor to do it. There is another thing is our vision of the future and that is it is a possibility that to a great extent immigration wil! be restricted and the probability is now that it will be very much less in the In our northern cities, though, we have been up against the housing problem for at least five years, and school house work, and absolutely required public educational buildings we have been short on. Other materials, such as brick and cement are not coming in as yet so as to decrease the cost of building. For instance,

at one time before the war we were commencing to use sheet metal for forms and that was replacing lumber; but at the present time sheet metal has increased so much in the way of prices, with the high price of lumber prevailing there is very little differ-Another thing I have noticed is in oil circles, there is a very great feeling of uncertainty as to what is going to happen as to the

shipping of oil and gasoline.

Q. It has even been predicted that gasoline is likely to go up to fifty cents a gallon. Now, anything like that would have a direct effect on the building of automobiles and would stop this building of garages over the country,-that is another thing that would affect the demand?"

"A. Possibly, but the big business people in the country, the big men that claim to be authority, are looking for a period of industrial building five years ahead, laying their plans for that."

That is, unless something unusual happens to intervene, to un-

settle it.

Redirect examination.

Questions by Mr. Wm. H. Duls:

Outside of panics and those other things that Mr. Howard suggested, I do not see any reason for a decline in prices; the supply of material and labor is now way under the demand. I mean to tell the Court and Mr. Howard that this rise will last five years longer, and it will surely last beyond the construction of the 2958 building.

Recross-examination.

Questions by Mr. W. J. Howard:

Well, of course, we get no lumber except a very high grade of wood, like mahogany and teak wood and some others outside of this country, but what is grown upon our own soil. We export some lumber. I understand there is quite a bit of lumber in Russia, but they are way behind in their methods of lumbering, and in their present condition they are not doing any lumbering to speak of. But those are things, as the demand grows, we seek out, and there is a possibility that we might draw on Russia in the dim future.

We are only a year out of the war, and when the people in Europe get settled and comparative order is restored, production, I suppose, would then be restored in the European countries. That would release the supply to a great extent, this demand, there is just that pressure upon it, and it is seeking an outlet in labor saving devices, but in Dallas this year we have been building two or three buildings and there never has been a time when one of our jobs has been properly manned on account of the scarcity of labor.

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Redirect examination.

Questions by Mr. Wm. H. Duls:

2959 Building permits in Texas are on the increase; I could not tell you just what per cent, but they are increasing. That same fact is true of the whole United States as a whole, but it might not be in some section where there is not normal growth,—some small section.

Recross-examination.

Questions by Mr. W. J. Howard:

As to whether or not that comparison is based on the years 1917 and 1918, or on the years prior to the war, I thought we could be safe to say that you could base it on the most prosperous year and there would be more building in value. During the war for a period of two years the building permits in the United States went down way low. I would say that for the State of Texas that increase will bring them up to or above the normal issue of permits prior to the war,—building permits have increased exceedingly but never even compared with what you are having at the present time. I do not know about Houston, but I do know that Dallas and Ft. Worth are way ahead of any record. The demand for office buildings rose from 60 cents square measure to \$2.50 in Dallas. The conditions in Wichita and Burkburnett are liable to drop down, I should imagine.

Questions by the Master:

I think the increase in building permits usually go- on values,—that is, cost of building. I should say that in Dallas they are doing more actual physical building now than they did during the prosperous years before the war. I am familiar with that, right now it is ahead of anything that she has ever had in her record for buildings that are actually under permit. I say that is the general condition over Texas so far as I know and I can say that of Ft. Worth.

Recross-examination (continued).

Questions by Mr. W. J. Howard:

That is somewhat directly affected by the oil, but still there is a great deal of what you call natural prosperity; industrial increase

in buildings, regular legitimate industrial work.

Besides this domestic demand that I speak of there is a demand also in foreign countries for lumber and building materials. The war destroyed a great many forests in Europe, and the people have got to rebuild their homes and houses in Europe and that creates more demand for these building materials. My company buys quite a great deal of steel. I don't think the steel corporation would accept orders on two years' basis; I think the only way they would accept them, they would take the order, that is, if some of them could not be billed directly, they would take the order subject to such deliveries as they could make, the prices to be current 2961 at the date of delivery.

Mr. C. A. Gates, a witness for complainant, resumed the stand and testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

I have heard the testimony of Mr. Allen and have adopted the estimate made by the Fred A. Jones Company as to the cost of reproducing these buildings. The figure which I get for the cost of reproducing the buildings in Houston is \$531,081.00.

Cross-examination.

Questions by Mr. W. J. Howard:

I regard the American Construction Company as a reputable and responsible construction company, as far as I know; I do not know very much about them. I do not know who the management is today, haven't had occasion to investigate the matter. If I could get a reputable company to put it up for \$35,000.00, \$45,000.00 or \$40,000.00 less than those figures I would con-

sider all the circumstances surrounding it. Assuming they are a reputable company, absolutely responsible and would give a bond to put it up, I certainly would adopt the lowest bid, everything considered.

Redirect examination.

Questions by Mr. J. D. Frank:

The next item on page 1 of my summary is Distributing System. I have included as the cost of reproducing the distributing system, \$2,577,511.00. The detail of that is shown on pages 52 to 79 inclusive. The summary of the distributing system appears on page

51.

The first item in my summary of the distributing system on page 51 is poles, amounting to \$321,331.69. That is shown on pages 52 to 55 inclusive. There are seventeen thousand, two hundred and fifty-eight poles in the plant. I have in there an item of labor and incidentals amounting to \$5.88 a pole, which applied to the total number of poles, makes \$100,959.30.

Just below that I have a heading "Miscellaneous Street Costs" which is, first, poles set in private property, \$2.00 a pole, there were 897 poles. It very frequently occurs, especially in Houston where there are very few alleys, if any, in the residence section, at least, it is necessary to set a distributing pole on private property. It

always costs more money to put that pole in there, because 2963 of lifting it over the fences, moving shrubbery, replacing lawns, difficulties in raising the pole because of the fact that it has to be set along side of buildings. Our experience over a period of two years, with the advanced price of labor, is that the cost would

be at least \$2.00, probably more.

The next item is poles set in cement walks. There are 69 in the plant. I have estimated that we can replace that walk for twenty cents a square foot, I have estimated that we have to replace nine square feet of walk for each pole, or \$1.80, making a total of \$124.20.

Poles cribbed with concrete 2 at \$12.79,-\$25.58.

There are 7354 poles that are painted at a cost of \$1.99 each, or \$14,634.46. There are 15,505 poles that have the butts treated at a cost of 94 cents each, making a total cost for the treament of \$14,574.70. This brings the total cost of the exchange pole line, poles only in place, of \$321,333.59, which I have carried into the summary on page 51.

The next item is Exchange Pole Line Accessories; the detail appears on pages 56 and 57. The total of these items is \$86,111.71.

which is carried into the summary on page 51.

Some of those Exchange Pole Line Accessories are cross arms on page 56, and an item of 12 pin fir cross arms of which there are 151, at the unit price of \$6.44, making a total of \$972.44. There are anchor guys at the bottom of the same page, 6,000 pound strand guys, 867 at \$3.57 each,—\$3,095.19. I carried all of my pole line accessories over to page 51, \$86,111.71.

The next item is Exchange Aerial Cable, the detail on 2964 pages 58 to 61 inclusive. At the bottom of page 58 there are 22 guage cable, type AA lead tin sheet, ten pair, 4,443 feet at

10.27 cents per foot, \$456.30.

Under the head of Exchange Aerial Cable I have some other itemof material other than the cable itself. On page 59 there are pipe and underground dips, galvanized iron. One or two of the other items are, the labor of placing the cable on messenger, \$55,264 feet, at 12.8 cents per foot, amount to \$122,273,79. It is on page 59, Labor and Incidentals. Labor and Incidentals on cable and dips of which there is 35,230 feet at 22.5 cents per foot,—\$7,926.75. All of the several items that I have enumerated in connection with the construction of the Exchange Aerial Cable. Total on bottom of page 61 is \$648,518.05, carried in the summary on page 51.

My next item of the distributing system is Exchange Aerial Wire; the detail is shown on page 62. That is open wire work. The first item is No. 14 iron wire, 31,580 spans of wire, amounting to 681.84 miles, at a cost in place of \$34.52, or a total cost in place of \$23,-537.12. I get as the total cost of Exchange Aerial Wire Lines, \$93,480.38, and that appears at the bottom of page 62, is carried into

the summary on page 51.

The next iem of the distributing system is Exchange Aerial Wire Drops; the detail appears on page 63. The total figure is \$52,503.74, and that is carried into the summary on page 2965 51.

The next item is Exchange Underground Conduit Main; the detail is on pages 64 to 67 inclusive. On page 64, the fifth item which is duct vitrified and clay malleable tile in complete concrete encasement; of that particular type of conduit there is 25,482 trench feet, at a cost in place of \$2.28 per trench foot, or a total of \$58,098.96 for all of that in place. I show the amount of Exchange Underground Conduit Main on page 67, \$593,051.57; it is carried in the summary on page 51.

I have an item of "Cutting and Restoring Paving." I have not included anything for cutting and restoring paving where that paving did not exist at the time we built the underground work.

My next item is Exchange Underground Conduit Subsidiary. I show that in detail on pages 68 and 69. As the final figure for the total Exchange Underground Conduit Subsidiary I get \$78,-227.53. I have figured out the cost of the various kinds of paving that we would have to replace in restoring that property. The final figure of my Exchange Underground Conduit Subsidiary is shown on page 51.

The next-item in my distributing plant is Exchange Underground Cable Main, detail on pages 70 to 72 inclusive. I first set out the various kinds of cable and then have Miscellaneous Material that goes along with that cable; that is all included in the unit

cost-that is miscellaneous material. The final figure on that appears on page 72, is \$555,610.72 and is carried into my 2966 summary on page 51.

The next item is Exchange Underground Cable Subsidiary, pages

73 to 76 inclusive on which pages the details of that are shown, and as the final figure on that I get \$107,588.39, which I carried into my summary on page 51.

My next item is Exchange Underground Cable, House Cable, of which the detail is on pages 77 to 78. I get a total of \$14,219.44,

which is carried into the summary on page 51.

The last item that I have in my distributing system is Exchange Right of Way; the detail is on page 79. That item of expense in connection with the distributing system covers permit fees, labor, and all other expenses involved in securing right of way,—first, locating 16,361 poles and 1830 anchors on public streets and alleys; second, for opening streets to place 233,958 trench feet of conduit, and 22,080 trench feet of underground dip pipes; third, for placing 897 poles and 235 anchors on private property; fourth, for placing 13,286 trench feet of conduit and 4,479 trench feet of underground pipes on private property; fifth, for placing 26,915 feet of block cable and 98,910 feet of block wase on privately owned buildings; sixth, for placing 15,126 feet of house cable in privately owned buildings,—a total of \$26,867.28, which I have carried into the summary on page 51. I have made an estimate of what these various items would cost for doing that particular work. The ex-

pense in connection with right of way matters is not charged to operating expenses. It is a capital expenditure and I know from my experience in the telephone business that it

does cost money to secure this right of way.

With reference to the majority of items of materials that are used in connection with the telephone business, the Southwestern Telegraph and Telephone Company does not buy them in any other manner than on the wholesale basis; carload lots are considered wholesale quantities. If you would buy, for example, ten car load lots of poles, you would not get your material any cheaper than you would if you would just purchase one car load lot. The best prices you can get is in car load lots. The prices which I have studied here were on wholesale quantities and those are the prices which I applied in making my appraisal of this property.

Recross-examination.

Questions by Mr. W. J. Howard:

I do not know whether or not the American Telegraph and Telephone Company has any control over the company that furnishes the poles. I do not know that I have ever heard anything about that, but if I did, it would be purely hearsay; I do not know anything about it.

Direct examination.

Questions by Mr. J. D Frank:

2968 The total figure on page 51 under my summary of Distributing System is the figure that I carried into my summary appraisal on page 51.

The next item of material on page 1 under summary of appraisal is Central Office Equipment. I have included there as the cost of reproducing that part of the property, \$1,242,514.00. In appraising that particular part of the property I asked the Western Electric Company, who manufactured that apparatus, to make me a price on reproducing that property; an inventory was sent them and they made their estimate on that statement. I did not ask any other manufacturing company to make an estimate on what it would cost to reproduce that part of the plant, because there is no other company that I know of that manufactures the same class or character of equipment, or that could replace that equipment

Cross-examination.

Questions by Mr. W J. Howard:

I say I got these figures from the Western Electric Company; on page 81 is a copy of their proposition. They are the only people who manufacture that particular equipment.

I have analyzed the labor cost of the Central Office Equipment, but not recently. I do not know what part or what proportion the labor of that manufacture bears to the selling part, that is,

the labor cost of the manufacture bears to the selling cost
2969 of the product, but it perhaps runs from 60 to 70. I am using
these figures I have in mind in days gone by, that that is
not positive, absolutely certain. They have increased considerably
in later years, that is, the prices of equipment,—they have increased
considerably in later years.

Direct examination.

Questions by Mr. J. D. Frank:

Prices of all other equipments have increased considerably in the last few years.

The next item of material is Station Equipment and that is shown in my appraisal on pages 101 to 124 inclusive I have a summary of the station equipment on page 101 and the first item under station equipment is station apparatus, details on page 102.

That station apparatus consist of subscribers' sets, protectors, pay stations, and miscellaneous equipment that goes with them, amounting to \$195,140.15. It appears in the summary on page 101.

The next item is Station Installations and the details are shown on page 103. Station installations include the wiring, the labor, the incidentals, in placing subscribers' stations. I have figured out the cost of the material and labor of making each one of

those installations and have then applied that to the whole installations; that was the average cost which appears in the unit cost. The total of that is \$108,334.33, which is carried into the summary on page 101.

The next item of station equipment is Interior block wires, details

on page 104. Block wires are not wires that are run into the houses; these are the wires that are run at the back of the business blocks, or the rears of the buildings, and are used to connect between the cable terminals and the subscribers' station. I have included under this heading the miscellaneous material that goes along with that, and labor and incidentals.

I get as the total figure for plumbing, \$95,026.10, which is car-

ried into the summary on page 101.

The next item in my station equipment is Private Branch Exchanges. The summary of private branch exchanges is on page 105 and the detail follows on pages 106 to 123, inclusive. Those are the various private branch exchanges that we have located in the big business houses in Houston, and where there are larger ones they are shown in detail. My total figure for private branch exchanges is \$62,252.52, and I carry that into my summary on page 101.

The last item of station equipment is Booths and special fittings; details are shown on page 124, and I get as the total cost in the placing of that equipment, \$3,668.25, and have included that on

page 101.

On page 101 I get as the total figure for my station equipment \$378,921.15, and that, in turn, is carried into the sum-

mary on page one.

I have not included in my appraisal any transmitters, receivers, or induction coils; those are the property of the American Telegraph and Telephone Company.

Cross-examination.

Questions by Mr. W. J. Howard:

I also got those prices from the Western Electric Company, the prices on the apparatus; they are the prices that we paid for apparatus and for material the first nine months of 1919.

Direct examination.

Questions by Mr. J. D. Frank:

The part of the property that I have been considering up to this time is the physical property only. I have not included all of the physical property in that. I have given you an estimate of the cost of reproducing the physical properties, other than the furniture and fixtures, tools and store equipment, stable and garage equipment, not including any taxes or interest during the construction. The total figure for my land, buildings, distributing system, central office equipment, and station equipment is \$4,944,877.00.

The next item I have here is Contingencies and Omissions of three per cent; that is, three per cent of the total cost of

the physical property enumerated above.

"Q. And you worked out that three per cent with reference to the amount of contingencies and omissions, which would appear in the various items going into the plant?"

"A. I don't understand that question."

"Q. Well, have you used a weighted average or have you worked out the amount of contingencies and omissions that you have on distributing system, say, for instance, and the amount that you have on central office equipment?"

"A. I would use the weighted average."

You would have contingencies and omissions with land. As an illustration, in the case of the land that we bought on Fannin Street on which our Hadley building is erected, we had an item which does not appear to-day when we go to value that land; at the time that land was purchased the title was examined, was approved by our attorneys and the land bought. I think that was approved by Mr. D. A. Frank, but, at any rate, after we bought the land, the Bremond heirs came in and brought suit, and much against my wishes, on the recommendation of my attorneys, I paid the Bremond heirs about \$250.00, which is about eight per cent, I guess, on that land, as I remember it, that is, over and above the cost of the land; I had that to pay.

2973 That was on account of defect in title at did not appear on the record as shown by the abstract and my attorney

gave me an opinion on the abstract and wrote better.

With reference to other contingencies in consection with land, I have two in mind today that occurred in the last two or three years in this state where I did lose land. In one instance, I contracted for the land, was told there were no restrictions, and while I had the contract so drawn that I would be relieved if there were any restrictions that prohibited the building of a telephone exchange, I did not have to buy the land, I did lose a considerable amount of money because it was just at a time when it was necessary to build an exchange quickly and I had my plans started as soon as I got the contract signed; then when the second attorney got through with it, I found that there were restrictions that could not be removed and I couldn't build the building on that lot, and I had to go through the whole thing again and get a second lot. At that particular location, there were but very few lots that could be used for business purposes, and I dare say that if we knew exactly what he change meant to us, that it would represent thirty per cent of amount that we paid for the lot in trying to locate a lot free

om restrictions. There is another instance where I purchased a ot, was about to build a building on it and the State of Texas desired the land for a park, and I had to give it up and buy another lot. I still have the land, the State of Texas has not bought it. We did not dare build on it and I cannot sell it to anybody else

because we do not know when they will come along and condemn it, anytime, we don't know what day. That is in Aus-

tin, the capitol of the State.

With reference to other contingencies in connection with land besides the illustrations I have made, in the prices I have used in Houston I have not considered commissions of real estate men. We have never bought a piece of land yet that we did not pay directly

or indirectly, a real estate commission, and I think that probably three to five per cent,—I do not know just what your real estate men exactly would charge you, I believe I have got something on that right here. (Referring to paper), your real estate men would charge you five per cent,—I guess I haven't got it either; they would charge you five per cent on small sales at least, and on large sales, I do not know; they used to charge five per cent for the first eight thousand dollars and two and a half per cent above in Dallas. They charge you five per cent straight now and nothing has been considered on that. I have nothing else to say in reference to omissions, in connection with land.

With reference to our Preston lot over here I have not included everything that is on that lot; we have not included the driveways, curbs, sidewalks or the cement washing stands by the side of the Preston building where we wash automobiles, nor do I include this garage over here on the Preston building. That has not been included, and neither were the warehouse buildings on the lot at the corner of Texas Avenue and Roberts Street; neither is the stable on

the Taylor lot.

Those are illustrations of contingencies and omissions which you do have in connection with land and buildings.

Now, we have another very apt illustration of things that are liable to be overlooked in estimating the reproduction costs in buildings. In San Antonio I made a contract in 1910 for the erection of a three story building on Travis Street, which was to cost about \$50,000.00. The contract was taken in a lump sum. footings for the foundation were distinctly specified, they were based on test bearings that we had made by men who were considered competent engineers and architects, but when we got down to the footings, we found there a condition that had not been forseen by those men, and it was necessary to put in 340 pieces of piling. When we got to driving the piling, we found we were on the edge of an old creek or shelving of limestone formation, the piling would slip and drive off, and the added expense to the telephone company, independent of the \$50,000.00 contract, was a little over \$12,000.00, or in the neighborhood of twenty-five per cent of the cost of the Now, that is something that would undoubtedly be omitted by any engineer who went there to investigate and value that building, unless we could get into it and find out what the history of the thing was. In many cases we have had buildings where the contractors have defaulted and we have had to take over the buildings and finish them. You are usually protected by a bond under those circumstances, but there are many cases where the bond does not cover it, and many cases where the bond per-

haps only covers a part of it.

2976 My contingencies and omissions in this case in dollars and cents amount to \$148,345.00. I have added that to the cost of the physical property enumerated above, and as the total cost of that physical property, including contingencies and omissions I get \$5,093,223.00.

Cross-examination.

Questions by Mr. W. J. Howard:

With reference as to whether or not I am trying to justify the contingency of three per cent on land and buildings,—three per cent is the weighted average on the whole property. As to whether or not I am trying to justify three per cent on the land, I think that there is,—I think you will probably have, taking the thing as a whole, you will find that would not make it if you went out and looked at it. You do not have any compensating elements that might tend to wipe out that three per cent. The telephone company, as far as I know, has never bought any land in Houston for less than it is worth. We are not claiming a pretty nice profit on the land we bought in Houston; we cannot take the property.

Here in Houston we paid for the Preston lot \$110,000.00 in about

1910. I have it set up here now for practically \$192,000.00. "Q. \$192,000.00, a profit of \$87,000.00 in ten years."

2977 Mr. D. A. Frank: \$82,000.00.

"Q. \$82,000 in ten years."

Mr. Duls: That is not profit, Mr. Howard.

Mr. Howard: Well, it is increase. Mr. Duls: Increase, but not a profit.

We cannot take the increase, we have got to use it, we cannot get away from it. Intrinsically it is worth \$192,000.00. I have just told you that we have no profit because we cannot take it and haven't any increase because we cannot take it. As to whether or not the probabilities are that we had a pretty good bargain in it when we bought it, I think you will find other property that has gone up much faster than that that right here in the City of Houston.

Direct examination.

Questions by Mr. J. D. Frank:

What I did was to estimate the cost of reproducing the various parts of this plant, and then I applied my contingencies and omissions to the cost of reproducing the plant. My weighted three per cent would apply to the reproduction cost of the property as a whole.

2978 The next item I have in the summary in my appraising is Engineering, four per cent, amounting to \$203,728.00, and I have taken the weighted percentage and applied that to the property as a whole. That applies to the land, buildings and all of the property going to make up the plant as a whole. It would be greater than four per cent on some parts of it and less than four per cent on others. I used four per cent because I think that is the very minimum that it could be done for; four to six per cent is the usual cost,—somewhere in between four and six. Five per cent is the figure that is generally allowed by engineers for that. Mr. Lyndon

allowed six per cent for engineering and that was in some work that

he did for the City of Houston.

The next item here is General Expenses, two per cent, which in dollars and cents amount to \$105,939.00; that is expense that you would have in connection with the construction of this property if you were reproducing the plant, and is expense that the Southwestern Telegraph and Telephone Company has all the time in connection with the construction of its properties from time to time. I know that it is customary for other engineers to handle an item of that kind in arriving at the cost of construction. I take two per cent because I thought that was a minimum figure that it could be reproduced for.

Cross-examination.

Questions by Mr. W. J. Howard:

As to how we would spend the money, the first item of \$105,000.00, we would have to have general supervision throughout the entire period of construction; everything that we have covered so far has been simply the actual cost of doing the work. We have a supervising engineer during the entire period of construction; only one supervising engineer.

"Q. Well, what is the four per cent engineer for, what is he going

to do?"

"A. The engineer is going to build the plant?"

You need somebody to supervise these engineers that are going to build the plant, that is, a general supervisor; he would not necessarily be an engineer. He would not be an engineer, he would be an executive. The executive work he would have to do would be to supervise and direct the whole property. The engineer would not do that; the engineer is not supposed to buy the material, the engineer is the man who designs the plans. I mean you would have to have somebody who would be the executive, hire the engineer and tell him what to do; have him simply hire someone to simply superintend construction and see that he did it. We could not get the services of the Western Electric Company or the services of the American Telegraph and Telephone Company because it is not their business. They would give us any engineering advice that we might ask for, they maintain an engineering department that is continually egaged in research work and answering the questions we might want, and continually assisting us in financing the busi-

ness; we couldn't finance this business at the rate we get.

2980 We could not get six per cent money. I think it is a great favor to get six per cent money under excisting circumstances.

With reference as to whether or not he is going to need a building engineer, that would be only one of the duties he would have. The general expense would cover the general executive force; he would direct the construction of the plant and the business generally and it would not be "him," it would be several "hims".

"Q. How many men are you going to have of "him"—you have

got the engineers now to supervise everything and see that your foreman and everybody that knows the material that you want, and you have got a great big body of men here, engineers, as you have built it up. Now what are these overlords going to do?"

"A. You seem to have a confused idea of the duty of an engineer." The engineer is not an executive, is not a man that tells people or goes out here and runs the business; he is going to run the plant. I assume we are going to have some money. You will have a complete organization, beginning with the manager and president of the company; the president would give his time probably for the time being to help out, merely as a good fellow, and he would have to have a general manager and the general manager would have to have his staff; would have to have his office work, would have to pass on various and sundry things; you would have to have your accounting, you haven't accounted for your accounting. It is very

true that we have our incidentals here, but look at it this 2981 way; suppose a man comes down and puts six million dollars in this plant, who is going to take care of it.

"Q. Well, we have a bank here. You know, as well as I know, you have to have somebody in there to handle this money, and kind of be supervising head. But now, when you come to talk about a corps, a big organization to build one telephone plant, and you are going to take three or four years to build it, now how many men is it going to take in addition to those engineers on the field who know right where to build the plant, and when it comes down to a close approximation, how much material you are going to have, how much labor and where you are going to put the plant,—then you have got a sort of directing head. I just want to know in the spending of five or six million dollars, what great big force you are going to require besides one executive head and two or three bookkeepers."

"A. One executive head and two or three bookkeepers?"

"Q. Yes. Take that—we will allow that now. Why couldn't they handle it?"

"A. Why, Mr. Howard-"

"Q. I understand you could build up as big an organization as you want to, employ a whole lot of men, spend a whole lot of money, but tell us now just what he is going to do—you have told us he is ging to buy the material?"

"A. There is not any business in this country that will go out and spend six million dollars and give it general supervision for two per

cent."

That is less than it cost the Southwestern Company to super-2982 vise the State of Texas this last year and supervise its construction work, that is, its general expenses is a less figure. These incidentals you are speaking of are incidentals we have found from experience, and that two per cent is less than that cost the Southwestern Company for the last several years. Direct examination.

Questions by Mr. D. A. Frank:

In Dallas when they organized the Southwestern Telegraph and Telephone Company the plant was not as large as here in Houston. They had an organization and had a considerable force. It had a president, vice-president and general manager. The president and general manager devoted their entire time to it, and they had an organization. I did have the details of the number of people, I should judge off hand, they had something more than thirty employes in the general office, and their general expense, as I remember it, was something like sixty thousand dollars a year, and the only place they operated was the Dallas Automatic Telephone Company; the operation of that company would be for a three year basis, something like an expenditure of \$180,000.00 alone and in this estimate here I have only \$105,000.00. It is a fact that is recognized by all first class engineers that "general expense" is a legitimate item and the two per cent is very conservative.

2983 As to the character of the work done by an engineer in a plant of this kind, an engineer's business is to study the situation and the conditions, and to design the property and to recommend to the executive heads the types of property, the operating methods, that should be used, in his judgment. The ordinary engineer is incapable of even managing a telephone plant without special training. A man has to have long years of experience in order to do telephone engineering; an engineer is a specialist.

The location of this building over here on the corner of Capitol Avenue and San Jacinto Street was not accidental. We did not just put it there because we happened to have a vacant lot; that was the result of a very careful study of this city and the various buildings in it, and the telephones we had then, and the telephones that we might put in in time, even in buildings that then existed and in buildings that might be built, probably would be built in the future. We could not just as well have located that building up close to this large station that is back over here as to locate it where we did; it would have cost a great deal of money. It would have cost a great deal of money to carry your lines to it, put your conduits to it; the economical location is the one that will give you the shortest wire run, the shortest average wire run between your central office and your subscriber, and that location is usually sought. That is usually the result of long study which is known as part of the funda-

2984 mental plan.

The engineers who do that class of work are known as commercial engineers, and are frequently men who are versed in the construction of telephone plants to the extent that they know material, or would be capable of designing a switchboard, or laving out a central office, in other words, a man might have eminent ability as a commercial engineer and might know very little about plant engineering, and the same might be true the other way; in other words,

you would not take an ordinary plant engineer and start him out to

do a commercial engineering job.

In making these fundamental plans, even with an organization such as the Southwestern Company has we do not rely entirely on our own engineers to do that kind of work; we have a commercial engineer, but we get help very frequently from the American Telephone and Telegraph Company. With reference to the kind of an organization they have with respect to doing this fundamental plan work, they have a commercial engineer, with a staff, that is working out all over the country; they have the experience of the entire tele-They work it out all over the United States. phone system.

The last study that was made to make a fundamental study of the Houston exchange was made here in 1915; we had a great deal of data on which to base our study; the cost at that time was something If you were to come in here today; if you had around \$5,500.00. no telephone department and started to make a study of the

company, the commercial department of the Southwestern 2985 Telephone Company has estimated that it would cost about \$27,000.00 to make such a study in Houston today on the assumption that there were no telephones here. After you got through with that sort of study you would not have anything done except to determine where your subscribers are going to be and where your central office location might be located and where you might get a lot, in other words, to merely locate the lots and know where the

business was going to be would cost us \$27,000.00. When it comes to plant engineering there is nothing accidental about the location of this underground work and these poles and the laying out even of your floors and your buildings, every bit of it has to be studied. As I pointed out this morning, before the architects go to work on the building plans themselves, it is a very usual thing for us to have the engineering done on the central office apparatus, to lay out the floors, lay out the location of the apparatus and then tell the architect to build the building around. In the work that is done for the Southwestern Company in the making of these fundamental plans by these experts working for the American Telephone and Telegraph Company that work is part of the four and a half per cent, in other words, the license contract covers that.

As to whether or not your plant engineer determines the size of your poles, the size of your conduit and the size of your cross-arms and things like that; the size of the conduit is based on study made by the commercial engineer, as to where the post is

going to be and how large the post is going to be and the location; the location of the conduit is determined by the plant engineer after he has located all the obstructions in the streets, or attempted to do so; it is not always possible to get the location of the pipes, water pipes, gas pipes, sewers, in the streets of a city.

The commercial engineer would tell you how much business you would have in a certain locality, or how much you could expect. rely on our plant engineer to build a plant to carry that business. The plant engineer might go out here and lay out a plant and find

he would have to change it after he got in the streets.

Supposing we had our plant built and our commercial engineer had advised us where the business would be and we had found the business where he said it would be and had our plant completed, and had our switchboard in, it would then require the services of another engineer to tell us how to operate. We have a traffic engineer.

The system of operating a big exchange like this one over here is not a mere accident; it is the result of years of study, the result of contant study, because conditions under which it is operated are constantly changing. In other words, the methods even to the manner of handling the girls and janitors and set up of the board,

2987 and everything like that, is constantly changing and is constantly being studied by this traffic engineer. When I have a set up for engineering expense, the expenses that I have included covers the salaries of these engineers who are doing these various kinds of work. Those engineers engaged in that character of work do not have time to do any supervising of other employes; they cannot do anything outside of their own departments, and if they did, in the majority of cases, their own training is such that they would be unfit for supervision. We have an executive department that controls all departments, in other words, if you had a plant in the city of Houston you would have a general organization which would control the situation relative to the engineers, as well as to the accountants, as well as to operation and repairs and other things of that kind. I think that a man who had six or seven million dollars to invest would feel that his money was being thrown away if he did not have an organization to take care of it, in other words, I do not think that a six or seven million dollar plant could run itself like the soviet form of government in Russia. No man would invest much money in a thing of that kind unless he had some common knowledge of who was going to handle it and how they were going to handle it; he would certainly want an organization that was capable and effi-The amount I have allowed here is really less than it could cient. be done for by a capable organization; I think it is less than anything I know of. It is about \$30,000.00 a year for three years construction period, and there is not any company that handles the expenses on as low as a basis as that where they build a plant of this size or approaching it. I would not think of getting an engi-

2988 neering expert and tell him to go and build a plant and operate it and expect that he would get results. I would practically have a plant superintendent and he would have charge of the plant and be over the engineers. It is true that the fact that this man is an engineer would not mean that he was doing engineering work, but he would have to understand engineering in order to direct the engineers. To set up an organization of this kind I would probably follow the lines, if I were going to built it, of our usual organization; general manager, general superintendent of the plant, general commercial superintendent, and general traffic superintendent.

"Q. Now, Mr. Howard suggested that in order to operate a plant like this in the City of Houston, that all you would need would be a general manager and two or three bookkeepers. Could you operate

it that way, Mr. Gates?"

"A. No, sir. You would want an auditor and a treasurer."

You would have to have a regular accounting set up, and for 27,000 subscribers it would take quite a little organization. I do not know how many people they have here in the accounting department. have had to move them out of the building over here because it wasn't big enough to take care of all the employes. The building is 55 x 125 feet on the first floor and we had to move some of the employes out because we did not have any room for them. It would not require that much space for a general manager and three bookkeepers. you had your general organization here in addition to the local organization, you would have to have still more room.

seventh floor of the building here is now used for the division 2989 We have two exchanges there, Capitol and Preston. Those are operated mostly by young ladies and they have supervision; the traffic department supervises them; all of this comes back to the question of the requirements for general organization, and that general organization would be required even from the very beginning, from the construction of the walls of the building. There is no question about it in my mind.

Cross-examination.

Questions by Mr. W. J. Howard:

The organization I am talking about that we had to move out of the second floor is the accounting organization for the Houston exchange during the operation. Not during the construction period, but they would have their accounting besides, plant accounting during construction and that would require more people.

Q. You have to look out for the traffic, have all this traffic expense, you have got of course men out starting the plant, handling the pay roll, and buying some material, you are going to keep a bigger lot of

employes than in operating, all the time?"

A. Not necessarily all the time, but what would happen is this: your organization would be greater on the plant side during con-struction, but it would be greater on the traffic side after you

got in operation, less than on the plant." 2990

The Commercial Engineer doesn't overhaul the plant; he studies the location of the buildings, your residences and the character of houses you have, and whether or not your people are supplied with telephone service, what telephone service you are going to have, so that when new citizens come here they will have telephones In the last five or six years we have made very considerable changes here. With reference to changes in service I do to take care of them. I did not tell you that not know what service you are talking about. the engineer was making changes. The last time to do this work we had an engineer down here two times in six months. Had one man here from the American Telephone and Telegraph Company, here for two weeks, and had two people at the general offices in Dallas one fourth of the time, two people for three months, tabulating the reports of those engineers and two people one-third of the time,-two people all the time for three months and one-third of the time with

three other people.

"Q. Now, you say your engineers brought right up with this business, been right here with it, watching its growth, that they cannot tell you about those things as weel as these two A. T. T. men they brought down here?"

"A. No, I don't say our men couldn't tell us about the business."
When we are going out to spend money, Mr. Howard, we try to
get the best advice we can, just like a man when sick, he gets the best

doctor.

2991 "Q. I was wondering where you get all of those expressions. Now, this A. T. T. gets a nice compensation from this all over the United States, pulls down about \$40,000.00 from this plant, and then they get that same little pull down all over this territory where the Bell system operates. Now, they have got to send out some engineers once in a while to take a look at these plants, haven't they,—otherwise that would be paid out of gratitude, that \$40.000.00?"

"A. No gratitude about it, Mr. Howard." They give more than the value received.

Direct examination.

Questions by Mr. J. D. Frank:

The last thing that we considered yesterday was general expense,

\$105,939.00.

The next item of material which I have on page 1 of my summary is other equipment for central office, furniture and fixtures, details of that are shown on pages 82 to 100 inclusive and on page 82 is a summary of that by units. This property that I speak of as Other Equipment for Central Office consists of the furniture and fixtures in the operators' quarters, the cafés, retiring rooms, and schools. Pages 126 to 132, inclusive, show just what that property is

2992 and what the price is of each item of the property; the price is what the books show we paid for it. We have the original cost of all this furniture. I did not attempt to estimate the cost of

reproducing that property.

The next item is taxes during construction; I have shown the details of that on page 221.

Mr. Howard: Hasn't he worked that out about like Mr. Hoag has?"

Mr. J. D. Frank: I think so. If you do not want to go into detailed explanation of it, why, I will just ask him to state how much it is.

Mr. Howard: Yes.

It is \$75,262.00. I have made due allowance for the fact that under the laws of this state you pay taxes only on such property as you owned on January 1st of any particular year, and in figuring

out the amount of taxes I get \$75,260.00, figuring the taxes of 1919 as a basis.

My next item is Interest during construction and that is shown in detail on page 222 of my appraisement. The interest rate is six per cent, it is figured by quarters, on the average plant I believe, it is for each quarter. In order to determine how much interest you would have during construction I had to make an estimate of how this money would be spent. If you will turn to page- two and three you will find a statement showing the amount spent for different purposes by quarter. As to just how that money would be

spent, the first item on this statement is "land." Under figure 1, representing the first quarter, is an item of \$200,000.00; it is estimated that during the first quarter that payment would be made for land purchased. At the bottom of the page, on the line reading "Total additions to the construction of the physical plant by quarters," the total of all expenditures made during each quarter is shown. In the second quarter an additional payment of \$30,380.00 would be made on land, \$44,518.00 spent for pole lines, \$102,684.00 for conduits; \$4,404.00 for right of way; \$2,000.00 for furniture and fixtures; \$5,819.00 for tools and store equipment; \$7,958.00; making a total spent during the first two quarters of \$396,958.00. That same plan is continued throughout the entire statement, so that the second line from the bottom gives you the total spent in any quarter, and the bottom line gives you the total spent up to that and including the quarter under which it appears.

On page 4 I have "Expenditures for Plant Construction during development, two years." The two years development period begins after the ending of our construction period. I have not included any taxes during the construction period in connection with this matter about which I am testifying at the present time; I have not included any taxes during the construction period. The other computation there is made in connection with the testimony which I will give concerning the cost of establishing the business. I worked out this interest during construction on page 222. The

2994 first column shows the quarters. The next total additions to construction by quarters, the next average plant I placed during that quarter, and the next column the interest for that quarter at the rate of six per cent per annum. I have taken six per cent as the rate of interest because I think that is the minimum rate that I would have to pay for money. I get as the total amount for interest during construction \$405,750.00, and I have carried that into the summary of my Appraisal on page 1.

I get \$5,995,031.00 as a total reproduction cost of the physical property, including these overhead charges and taxes and interest during progress.

As to the part of the property I have been considering up to this time, I will say I have been considering the physical property only in other words, the bare bones of the plant and I have estimated the cost of reproducing that physical part of the plant.

The next item is cost of establishing the business, going value

and I have included for that \$987,996.00 and show that in detail in some part of my appraisal.

Cross-examination.

Questions by Mr. W. J. Howard:

I have got a very comprehensive set up on the cost of establishing business. That is not a standard set up of the American Tel. & Tel. Company on the question of going concern that I know of; I never saw one that they made.

I have been directing my attention to the reproduction of the telephone property here in this city, that is, what I have been talk-

ing to you about.

"Q. But the real thing you have been trying to do is to find out what the proper rate is in a telephone plant that has been in operation here a good long time, and so, of course all these things in regard to the length of time it is going to take to construct this plant, the number of subscribers you are going to get, that all necessarily is a thing that you have been drawing upon your general knowledge, you have nothing upon which to base it?"

"A. No, I do not think that is quite true."

"Q. All right, well-"

Mr. D. A. Frank (interrupting): Let him answer your question.

(By Mr. Howard:)

"Q. Was there ever anywhere at any time a telephone company completed and reproduced entirely in a city of 160,000 educated and trained to the use of the telephone service?"

"A. I did not get the first part of your question."

"Q. Has there ever — at any time that you know of a telephone company reproduced in a city of 160,000 people where there is no other telephone office within a period of three or four years or one continuous period, without any operation of any part of the plant?"

"A. No sir, I don't know of any place under those conditions. I do know of exchanges that have been built in cities—"

"Q. (Interrupting.) But not under such conditions?"

"A. Where they have been rebuilt after the exchanges have been

wiped out."

"Q. Now, Mr. Gates, I notice in this set up, you have put in nine hundred eighty-seven thousand, some dollars and some cents. Now, for the purpose of brevity, let's call it a million and save a good deal of time. I am not going over all of these figures, and now let us look at it from this angle, that it is not our purpose to go out and spend as much as we can of it, but it is our purpose to save all we can of it, and so let's see this first item; "Preliminary expert's advice on following subjects." Page 226. Now, understand, we are living in an enlightened age, where the people are trained in the use of the telephone service it has bene long tried out,

and we are going to reproduce the plant here, and want to save a million dollars, and now you say the first thing you are going to do is to pay a man and ask him can a telephone plant be made to pay, and you are going to employ an expert to do that?"

"A. You are going to have to employ an expert to answer the

general questions. That isn't the only time-

"Q. (Interrupting). You are going to employ an expert to tell you if a telephone plant can be made to pay and how many subscribers can be expected in a city that has been accustomed to

telephone service, where it has been demonstrated and they have attached 27,000 subscribers, and they like the service, and who are rather partial to the use of the use of the telephone, so you are going to pay an expert to tell you about how many subscribers can be secured in that territory. That is the next thing that is up to him to tell you. Is that true?"

"A. Yes, that is one of the questions he would have to answer." No, I do not think a man of ordinary intelligence would be able

to tell you unless he had devoted some study to the matter. In the telephone business today no man would spend his money, expend

six million dollars without some sort of advice.

"Q. I did not ask you to give me any lecture upon the telephone business, but I simply asked you to answer me a few of these questions with reference to this set up Now, you say that you would pay \$3,500.00 for certain services?"

Yes, sir.'

"Q. Now, you are going to pay him for asking him if a telephone plant can be made to pay and how many subscribers can be expected in a place where it has been tried out and you are going to ask him what kind of a plant shall be constructed. do you mean by that?"

"A. What I say."

I mean to get some advice on what class of plant, whether automatic or manual, whether underground, or overhead, or what class of buildings should be erected. We have had our general expense and our surveys, but this is preliminary.

had no preliminary expenses whatever. Then you would want to know about how much capital would be required. As to whether or not anybody could tell you right down to one hundred thousand dollars, or within a margin of one hundred thousand dollars, I will say, if he gets it within one hundred thousand dollars on six million dollars capital it would be pretty close. I do not think that I could go to most anybody in the business and that they could give me an approximation of what a plant like this would cost.

"Q. The revenue and the operating cost. Couldn't you go to any telephone plant in the country and they would give you their experience about the cost of operating telephones, and the general You could not get but an approximation any how?"

"A. You are asking me a question and then making a statement." "Q. I am asking you if you could not go to any telephone plant, the management anywhere in the United States and if they could not give you an approximate statement of its operating expenses and

revenue?"

"A. Just what is the question you are asking me, Mr. Howard?" Just read the question. (The reporter read the question to the witness as follows: "Q. I am asking you if you could not go to any telephone plant, the management, anywhere in the United States, and if they could not give you an approximate statement of its operating expense and revenue)?"

"A. I doubt if I could, and if I could I would doubt its

value."

2999 "Q. Now, on page 227, Attorney's Fee, you have the following charge: "Attorney fees for drawing charter and filing same and for legal advice during organization of six million dollar company, \$10,000.00." Now, you understand we are trying to save this money, not to spend it, and don't you know that under the laws of Texas that in order to prepare a charter it is practically as easy as writing a general warranty deed?"

"A. I am not a lawyer."

I am setting this up and stating that I will pay him \$10,000.00 and I think that a good lawyer, capable of giving you legal advice for three years, and drawing your charter, and so forth, that you would be getting him cheap at \$10,000.00. If I could get a good lawyer for that I would consider that I was getting him cheap. I would not want a lawyer to draw a charter unless he was a good

lawyer

"Q. Don't you know that all that is necessary is to furnish him a list of your subscribers and the amount that they subscribe, and then the State tells him what to do; that is, you furnish an affidavit as to the names and residences and the amount of stock subscribed, and then an affidavit as to the value, and then establish that they have paid up that much money, and then the charter is sent to Austin to the Secretary of State who then sees that you have happened to make a mistake, that he hasn't just followed the requirements prescribed and it is mailed back to him suggesting how to change it and then you get the price the fees for certains

change it, and then you get the price, the fees, for getting the charter; and you say you would pay \$10,000.00 for that,

would you?"

"A. No, sir. This expense, if you will read the item, is for legal advice during the organization of a six million dollar company, and is the only legal expense in the entire set up for the entire three years."

"Q. \$10,000.00 means a lot of money to any man-I know that

it means a lot of money to a lawyer -- but it may not-

Mr. Duls (interrupting): We do not draw our charters in that way, and the way you state it would be a mighty simple matter, if that's all you had to do.

Mr, Howard: The State tells you everything you have to do and

even has a form prescribed for it.

(By Mr. Howard:)

"Q. Now, we are trying to save this money, as I have stated, and not to spend it, as it is not a very complicated matter to draw a charter."

"A. But we are not paying the \$10,000 simply for drawing the

charter.

Well, a lawyer would have to investigate the laws of the State first, and then of some other States, to see what State we wanted to incorporate under, and then he would advise me as to the best form of organization and the best place to organize; then he is going to draw my charter; then he is going to advise me as to the contract

with my trustees, or my bonds, for instance, if we issue bonds, or make a sale of stock to a trust company, he is going to 3001 pass on my contract with them; he is going to have to pass

upon the franchise that I am going to get, and he may have to draw up that franchise; he is going to have to draw or pass upon the contracts for the purchase of materials. Then he will pass upon the contracts for the plant erection, the buildings, the purchase of the land,-why, Mr. Howard, in the purchase of this land alone a poor It is very true that I might could lawyer could cost me \$10,000.00. get one who I thought was the best and he might lose me the whole thing, but I would pay the money and try to get a good lawyer.

In the legal expenses I do not have any idea that it would be a complicated affair, but I would want a lawyer and would want to pick the man I wanted. Now, the lawyers I would have can go ahead and draw the contracts that I am going to make with perhaps fifty thousand people for service. I haven't gotten through answering this question, if you please. He is going to draw my contracts for right of way; he is going to handle any damage claims that I may have; he is going to assist in the assessment of property; he is going to represent this corporation before the city, and any city boards that they may be called before; he is going to examine and protect the title of real estate, and in that point alone might lose me more than I am going to pay him and he is going into the record of the contract with the employes regarding the compensation law of this state, and with reference to the condemnation of right of way; we may have to condemn right of way for your lines and buildings, and there are innumerable things that come

up on the compensation law of this State that will have to 3002 be looked after, and a great deal of legal advice that will be necessary, and if I could secure a real good lawyer for this sum I would, as I say, consider that I was getting him very very cheap; that is, if I could get a good man who would give his services for \$3,300.00 a year for three years and give you the service you wanted.

As to when I would get the charter, I am not talking about the charter of the Southwestern Company; I am talking about the charter of this company I am setting up in business. I am not representing to you or to the Court here that I am giving you these matters with reference to this Company here, but I am setting up the reproduction costI did not get out the charter for the Southwestern Telegraph and Telephone Company. I wasn't talking about the Southwestern Company; I don't know the exact date of the charter of the Southwestern Company.

My estimate doesn't refer to the cost of establishing business of the

Southwestern Company.

"Q. Then as the plant was added to from year to year and there came up the necessity of legal expenses, and of all these commercial expenses that you spoke about, they, to a great extent, were also paid out of operating expenses, were they not?"

3003 "A. I do not know whether they were or not; I am not familiar with the books and accounts and cannot tell you

any more than I know.'

It is very true that I am the Vice-President and General Manager, but then I would have to refer to the books. I do not know anything about whether or not it is a fact that during all of this time that expenses of that character were charged to operating expense.

It is not a fact that only a part of the legal expense for getting this charter and this organization would be allocated to this plant; it does not cover a great many exchanges. I want to say to you again, Mr. Howard, that the charter that I have assumed in this reproduction appraisal applies to the company to be organized and to be operated in the city of Houston,—only the Houston exchange. I am talking entirely about this particular reproduction appraisal.

"Q. I have no objection to talking about the other, and, of course, that is also a fact that a charter was gotten and that the legal ex-

penses for all of these different exchanges-"

"A. (Interrupting.) No, it is not a fact. The legal expenses in this appraisal refer entirely to the company to be organized to con-

struct an exchange in the City of Houston.'

"Q. I thought we had gotten by that. Now, then, the one that you are trying to fix the rate on is this plant here, the one doing business here now, is operating or existing under a certain 3004 charter, isn't it, and that charter serves the provisions not

only of this particular exchange, but numerous other exchanges throughout Texas?"

"A. That's very true."

I am talking about the cost of establishing business in the City of Houston if you were to build a new exchange here. This is under the set-up as I have supposed right along, just exactly the same proposition as for legal expenses in getting a charter and conducting the legal affairs of the company that we were to set up and not the Southwestern.

I say that in 1915, 1916, 1917 and 1918 we incurred such costs for selling service; that cost was charged to an account known as "Advertising and Canvassing,"—charged to operating expenses. That cost of establishing business which is set up here is soliciting and things like that, advertising, \$4.37 per station, that has already been paid for by the public in the way of operating expenses; you are again confusing the reproduction theory of the existing plant. "Q. Now, Mr. Gates, I want to find out something about that very

point from you as a practical telephone man. You are telling me that when you make certain earnings here from the public and pay your operating expenses out of them, including the cost of getting your subscribers, and you have been paid for it once out of the earnings of the Company, and you are goint to set up the amount again under the head of "Going Concern",-"cost of estab-

lishing business", and draw a return on that?"

3005 "A. Mr. Howard, you are confusing the proposition, confusing the two different things. Let me explain this thing now as I see it and then I will answer your question in this way. This appraisal is based on the theory that we are going to reproduce the Exchange—this appraisal is based upon the theory that we are going to reproduce this Exchange—that there is no Exchange here. I am not referring to the subscribers that we have here, but we are starting a new Exchange. There are no subscribers, and we are starting here with the cost of establishing this business, the cost of one-half of the subscribers; that is, the subscribers that we will get during the construction period, during the period that we are not operating. During the period that we are not operating we have no operating revenue against which we can charge this as an operating expense and we must necessarily capitalize this expense at that time. do not capitalize it after we get in operation but treat it just the same as we do today. Now, we set up this reproduction cost as a measure to measure what it would cost to get another exchange like this one today, and for no other purpose.

"Q. All right." "A. The cost of the subscribers has not been paid for by the public nor anything of the kind. I am not referring to the subscribers

we have here."

3006 Direct examination.

Questions by Mr. J. D. Frank:

With reference to the questions asked me by Counsel yesterday with reference to if it was not a fact that the cost of securing the charter had acaually been charged to operating revenues. We did not have any operating revenues when we secured the charter, and would not have for several years after starting and operating the ex-What I have done is to simply estimate the cost of reproducing the telephone business in Houston just as I estimated the cost of reproducing the physical part of the property.

Ommissions and contingencies apply to the physical part of the As to whether or not the physical property itself has anything to do with the cost of establishing the business, I may have left out some item that we will find out afterwards in the cost of establishing the business, but I have not used the percentage for omissions and contingencies except in connection with the cost of the physical property and that has nothing to do with the cost of

establishing the business. With reference to the expense of maintenance during construction, it is a fact that you would have a large part of that property constructed prior to the time you began operation; on the average it would be constructed for more than nine-tenths of a year

3007 in advance of operation.

I stated it would take about a year and fourteen months to construct our buildings, and that then it would take about a year after that, or a year longer, to install the switchboards. The expenses we would have in connection with the upkeep of that building while your switchboards were being installed would be the heating, lighting, water and janitor service; you would also have to have night watchmen for various parts of this property, and in fact, you would have practically all your expense that you would have after the plant was completed so far as people are concerned, and some additional, due to the fact that you would have a large number of men working on the building.

With reference to the length of time required to install those boards, some of the complicated works you have in connection with the installation of those boards are that there would be in installing the multiple alone, something upward of a million solder connections to be made; there would be a great many feet of jumper wire to be run on the inanimate frame, and those connections to be soldered. Whenever you make any physical additions to those parts, it takes several months to install the units; that is, a multiple means a multiple spliced, which means, splicing the cable run to the entire multiple; in this case there is a multiple of more than ten thousand lines, which would mean the splicing of cables containing more than thirty thousand wires.

On page 1 of my summary the next item I have under Cost of Establishing the Business is Working Capital and Building Supplies, to the amount of \$238,818.00. Working capital includes supplies that are necessary to be carried in stock and to have on hand to maintain the property, includes money required for expenses in addition to collections, payments of salaries of employes, the payments of taxes, various and sundry other expenses that enter into the operation; the cost of operation of the business, before collections are made for services rendered to the subscriber. The figure of \$238,818.00 is the figure that is required at the present time and I have taken it from the books of the company. I secured that from the accountants.

Cross-examination.

Questions by Mr. W. J. Howard:

My set up of \$238,818.00 includes supplies. We get a portion of our money in advance, but a comparatively small portion. I do not know what proportion.

Direct examination.

Questions by Mr. J. D. Frank:

I get as the total reproduction cost of the physical property, \$5,995,031.00.

3009 I have determined the per cent condition of the physical property constituting the Houston Telephone plant. I did it from a personal inspection of the property, from my knowledge of the property extending over a period of years; I made a personal inspection of a very large part of the property. I do not know any other manner in which I could determine the per cent condition of the property without inspecting it. I could not rely on the life tables.

The facts with reference to the condition of this physical property, I think this exchange is probably in better shape than any exchange that the Southwestern Company owns, and I think it is probably in as good shape as any exchange of like size anywhere in the country. I have examined telephone exchanges all over the United States, in the eastern sections of the country, and in the western sections, from the Canadian border to California, and I must say that I was surprised at the condition of this exchange when I inspected it in the last couple of months, notwithstanding the fact that I thought I knew something about it before, but I find it in a very much better condition than I really expected to find it. per cent condition of the property as found by me is 92.98 per cent. In determining the per cent condition of the property the things that I took into consideration were rust and decay. The question of obsoles-ence does not enter into that. The question of obsoles-ence does not enter into the per cent condition of the property, or the condition of the property, because the property is not obsolete; it is here being used, and what I am seeking to determine is

is here being used, and what I am seeking to determine is 3010 the condition of the property that is here and that is being used. If it were obsolete, it would be out of service.

I have not included any property in my appraisal other than the property that is used and is useful in the operation of this plant. I have excluded some as not in operation and not used or useful; I have excluded property that was not used, such as the old Taylor building out in Houston Heights. Not the old Taylor building in Houston Heights but the old Taylor building on the corner of Center and Taylor and the Houston automatic building in Houston

Heights.

Page 223 contains the details of that per cent condition. On that page, on the left hand side of the page is a list of the various kinds of property; the first column shows the obsolete class of property, the present total reproduction cost for each class of the plant; the next column shows the per cent division in which I found the property; and the third and last column shows the weighted per cent condition at the time I expected it. For example, I found the land in 100 per cent condition and the buildings in 95 per cent condition. I do not think that is a rather high per cent condition for the buildings of that type considering the length of time they have been in service; I think these buildings, if anything, I think that my per cent condition is too low on the building. I could take less than \$5,000.00 and put the Preston building in as good condition

as it was the day that I turned it over to the operating de-3011 partment to operate after I built it. I worked it out as to each part of the property and I get as the total per cent con-

dition for all the property 92.88 per cent.

On page 1 of my Summary the figure I get as the reproduction cost new less depreciation on the property is \$5,568,185,00, and when I add to that the cost of establishing the business and working capital, the figure I get is \$6,794,999.00, which is the total reproduction cost less depreciation.

Cross-examination.

Questions by Mr. W. J. Howard:

I determined just the physical condition of the plan regardless of any inadequacy or obsoles-ence then existing. When I set up my depreciation reserve. I set up a reserve or unit that is intended to take care of more than the deterioration tested only by the depreciating per cent condition; I set up enough to take care of obsoles-ence and inadequacy. I estimate that some parts of the plant will become obsolete, but when they do become obsolete, they become obsolete all at once. It has not been figured though upon the basis as if they had not accrued by percentage through the year. It is figured on the basis that we know that some of these things do

become obsolete, but when they do become obsolete they go all at once; like right of way, for instance, if we abandon 3012 a piece of right of way it is absolutely obsolete, we have lost

it, we have lost what it cost us.

"Q. Yes, but every year that advances from the time that the plant is constructed, it is approaching by a percentage the time when it will become inadequate or obsolete?"

"A. But it has not become obsolete."

There is coming a time when it will become obsolete, but when that obsoles-ence occurs, it occurs all at one time,-we take the part out.

"Q. Oh, I understand you do not absolutely abandon it until a certain period,-but there has been accruing through all this time and you have been setting aside for that very purpose, or supposed to set aside, a fund to care for that obsoles-ence and inadequacy when you remove the articles?"

"A. We have set aside a fund; but obsoles-ence has not occurred,

the obsoles-ence occurs at one time.'

The plant goes along, this plant today is in good operating condition, but it is not obsolete; but some part of it may become obsolete two years from now. My opinion is that when you come to estimate the present condition of this property and its value, you take it as it was constructed as I have done here treating it as new. Then I come and say; well, we are now going to depreciate the prop-

erty, and my idea of getting a fair value of it is to depreciate 3013 it by only the per cent condition and ignore the items of their obsoles-ence and inadequacy, although we have made provision and have been permitted to earn a certain sum to provide for this inadequacy and obsoles-ence. My reason for that is this: the plant is here, it is in operation, it is performing the functions that is was intended to; it is not obsolete, it is not inadequate and there is no deterioration; there is nothing except natural deterioration and I have taken into consideration that only.

"Q. Now, that being the case, Mr. Gates, and there is no obsoles-ence and inadequacy, and you have all these years taken from the community sums of money to provide for obsoles-ence and inadequacy, and it turns out there is none in existence, then you have taken from the people and for that fund, something that was

wrongly estimated and should not be collected?

"A. No, I think your premise is wrong to start with. We have not taken from the people enough money to take care of depreciation, and to pay us a reasonable return and for our expenses, we have not had the reserve to start with; in the second place, we know that sooner or later some of this property will become obsolete."

But it has not become obsolete at this time; but we must have the money so that when the property becomes obsolete, we must have

the money to take care of it.

"Q. Now, Mr. Gates, take for instance, we can take this table (indicating attorneys' table in the court room) say it was bought ten or twelve years ago and you look this table over and test it by every means that you can see, and the table is in prac-

tically 100% condition, it needs a little paint, and that estimate reduces it down to say, 95%, the table is designed to accom-

modate the purposes of this Court room—
"A Yes, sir."

"Q. —and it did for several years, and when it was put in it was supposed to accommodate it for several years; but we have come now to the point where within another year the table will be of no value whatever for this purpose here, but we need a much larger and differently constructed table-it would be economical and more convenient to have a circular table instead of one like this; now, it has not been taken out yet, but the conveniences and fixtures desired may require that it be taken out within the next year. you say that when you come to estimate the value of this table-we will say we will get the cost of it, or get the cost of what it will take to get a table like this new and depreciate it only five per cent that it will take to paint it and put it in good physical condition, that means that this table, while it is in good physical condition, the five per cent of its value will put it up to 100%; yet, because it is no longer useful, or will be useful for only another year, we must also deduct this accrued obsoles-ence and inadequacy that has been coming on during the years since it was first installed. Won't

you have to consider that fact in trying to fix a value upon 3015

"A. Not so long as you are using the table; as long as you are using the table it is not obsolete and inadequate, or you would not use it.

"Q. It is not obsolete, but the question of the value of the table,

you wouldn't say that table, although you know it is in perfect physical condition, but that you know in a year is to be displaced, has the same value as one that will serve the purpose for twenty years, would you?"

"A. As long as you are using it and it is serving the purpose it is

worth what the value would be to put it in shape."

"Q. Not when we know that within a year we will discard it and

buy a new table, because it won't serve its purpose?"

"A. I think the time is off when you do discard it, somebody might come in during the year and decide they want an oblique

table instead of a circular one."

"Q. But the fact is and all the physical facts absolutely demonstrate, that it is a circular table and a larger table that is necessary to fulfill the requirements and be up to date and give the best service. Now, isn't it a fact, isn't it almost demonstrated that you have to take into consideration the fact that the able was not what was desired for the purpose for which it was being used?"

"A. I think that as long as you are using that table for that purpose and it is serving the purpose, that there is no obsoles-

ence."

3016 "Q. There is no obsoles-ence and you would not depreciate the value of that table?"

"A. There is no obsoles-ence and I would not depreciate the value

of that table except by physical deterioration.'

"Q. Except by physical deterioriation? Now, turn from the table to your plant. And are you familiar with the fact that we are coming to the age of automatic telephones, that they are taking the country and they are going to be installed—that economy and good service and up to date equipment require their installation? Now, you have got a plant standing here today, manually equipped and this plant has been installed for something over twenty years. Now, the first year you were nineteen years removed from this age, the next year eighteen years removed, and now we have gotten up to the point where it will be demonstrated—can be demonstrated that it will be replaced by automatic equipment. Now, you say that this plant, to get a test of its value would be only—would be 92 per cent, or in other words, its full reproduction value, less the deductions for the actual deterioration of the physical?"

"A. I do not think obsoles-ence should be taken into consideration in considering this appraising until the property becomes obsolete This appraisal is based on this theory: That we are seeking to determine the value of the property that is here, that is being

used."

"Q. Yes.

"A. Now, we are not substituting some other property for it, but we are taking the property that is here and estimating what 3017 is its present value—and my estimate is as I have said—

"Q. Yes? And now in determining its per cent value, you will have to take into consideration the other, if anything, for the reason that within a year you are going to have to make radical changes in the plant in order to make it modern?"

Mr. D. A. Frank: What is the evidence of that?

"A. There is no evidence to my mind that we are going to have to do that. If we wanted to change this thing within a year we couldn't do it, Mr. Howard."

"Q. Well, within two years, or whatever time?"

"A. We couldn't do it within two years or within three years, or

even five."

"Q. Well, assuming now that an automatically equipped plant is a more modern and better plant, would you regard it as good economy to go ahead and reproduce a plant new with the manual equip-

ment, instead of starting it with the automatic equipment?"

"A. But what I am seeking to give you is value, the reproduction value of this particular property, I am not seeking to originate the plant or to replace this plant with another type or class of property, what I am seeking to give you is the value of the property that is here and the service."

"Q. Yes, right now?"

"A. Yes, sir."

"Q. And you absolutely shut your eyes to the fact that it is liable to be replaced within a comparatively short period of time by more modern equipment?" 3018

"A. I don't know that it is going to be replaced; I know

this, Mr. Howard-"Q. No, but if it is proven that in all probability automatic equip-

ment is the modern equipment?"

"A. Mr. Howard, if it was desired to replace this plant with automatic equipment, we couldn't do it in five years, you couldn't supply the equipment."

"Q. Well, even within five years is a comparatively short time?"

"A. In five years automatic app-ratus may be discarded."

"Q. It may be?"

"A. Things of that kind change. Just to give you an illustra-tion, the New York Telephone Co. had about thirty years ago installed the multiple switchboard, the first multiple switchboard ever put in of any consequence, in Courtland street exchange; that switchboard was installed, but was never operated; it was the greatest improvement we had in the art when it was put in there, and it changed over night. Now the automatic apparatus today, in the present state of the labor market, may be, may prove it, but the entire output of the manufacturers as I understand it, as I have been informed, is contracted for at least five years in advance, we couldn't get automatic apparatus unless there was some change in the manufacture or the schedule of that apparatus within that five year period; within that five year period something else may take the place of the automatic."

"Q. I understand, perhaps, your reason or position on that point. But my question is, if the issue is resolved to determine in

favor of the automatic equipment as being a much more desirable equipment, then would you still contend that there 3019 was no obsoles-ence in your plant on that account?"

"A. There is no obsoles-ence, for the reason that I cannot conceive,

I cannot see where you could replace this property if you started to do it within any time that you could say, that you now fix that this thing was going to become obsolete. But it is not going to become obsolete, it is not obsolete. What we are talking about is the property that is here, and not some other kind of property.

"Q. It is a fact, isn't it, that there was an automatic plant established in this very city, that was working very satisfactorily, and you came in here and they lived for a year and a half in competition with your company, and then your company later bought it out and

paid \$1,300,000.00 for it to eliminate competition?"

"A. I don't know about \$1,300,000.00 just to eliminate competition; we got considerable property, Mr. Howard. Automatic telephone plants have been in existence for a considerable period, and in some places, and in many cases, they meet the need of the public; some people don't like them, and I think it is largely a question of time to determine just how the automatic is going to be taken by the public."

I have such a map showing where the conduit lines of the Home Telephone Company ran; I don't know whether I have it 3020 here or not. In some instances they are parallel. I have

an inventory of that equipment in my inventory. If there were cases after we purchased the Home Telephone Company that a great many of our conduit lines and pole lines paralleled and ran along the same territory they were not included in the inventory; only the property that was used or useful was included.

"Q. But did not the paralleling of those lines make your equipment very excessive—that is, that it was no where near loaded to its capacity and no prospect of its being loaded to its capacity for

years?"

"A. On the contrary, the purchase of the automatic property saved us the tearing up of streets, the construction of additional conduits in many cases,—the City of Houston had grown so——"

"Q. (Interrupting.) Did it in all cases, were there any cases in

"Q. (Interrupting.) Did it in all cases, were there any cases in which you were using it to some extent, but not anywhere near its capacity?"

'A. As I said before, we have not included any property that is

not used or useful."

Direct examination.

Questions by Mr. J. D. Frank

"Q. Mr. Gates, I just want to ask you a little bit more about that automatic. As I understood your testimony before noon, the automatic, while physically it may be operated, is more expensive than the system which you have in now and is not en-

tirely out of the experimental stage as far as universal use is concerned; was that your testimony?"

"A. I don't think that I said it was more expensive. I s didn't think there was much difference in the total expense."

It is more expensive to install, more expensive to maintain, and more expensive from an interest standpoint, but less expensive from

The main advantage of the automatic an operating standpoint. system would be that you would get rid of your difficulties in getting and training employes; you would get rid of a large amount of your

difficulties that you have there.

Assuming that wages are going to come down and prices are going to come down, as Mr. Howard seems to think, there would be no special reason to have the automatic system at all, if that is true, that is, if wages come down, but they will come down only because there would be a lack of demand for labor. That will make it easier to get good operators; you can keep them long enough to train them and I think the coming of the automatic would be deferred; possibly it might never come. But even if the price of wages should rise and labor difficulties should get more and more acute, it is my understanding that practically all of the output of the Automatic Electric Company is scheduled for five years or more in advance

I do not know exactly how many stations there are in the United States of every kind of telephone; The American Telephone Company has something like Ten Million. The American

3022 Telephone Company and all associated companies, the Bell companies, in the United States have approximately Eleven Million stations, and there are other telephones in the United States besides the Bell Telephones. I do not know how many there are of those. I saw a statement the other day that would indicate that there were probably two million outside of theirs. From what I have before me and what I have read I should judge there are about thirteen millions or more stations in the United States. I do not know what the output of the Automatic Telephone Company's plant is.

"Q. A statement was made in evidence the other day it was about 85,000 a year. At the rate of 85,000 a year, just to replace the ones that are in use now in the United States and not take care of any

increase, it would take more than 100 years, wouldn't it?"

"A. Yes, sir." It is a fact that they could increase the capacity of the factory There would be no posprobably if there was sufficient demand. sibility of getting those within a reasonable time from the present time if it was desired, as I said before, I think it would be a physical impossibility to change this plant over in less than five years, unless there was some decided change in conditions. From all I can see today, in my best judgment as a telephone man, I do not think there is any likelihood or even possibility of this plant being made automatic in less than five years.

(By Mr. J. D. Frank:) 3023

"Q. In one of the questions Mr. Howard asked you this morning, he made a statement something like this: Assuming that this plant had been here 20 years; -would you say that this present plant had been here 20 years, or that property constituting the plant at the present time?"

"A. No, sir, I don't think it has been here anything like 20

years."

In fact, most of it is largely new. I have some figures that I would like to find here. Since 1910, there has been more than four and a quarter millions of dollars spent in the City of Houston on the plant. All the buildings have been built in that period, all the switch-boards that are in those buildings have been installed during that period and a very large part of the cable and outside plant have been built within that time.

Cross-examination.

Questions by Mr. Howard:

If we were changing to the automatic system here we would not have to replace our entire plant, that is, substitute other kinds of property for the entire plant. It would be mostly in the telephone instruments and the central office equipment; it would not require any change in the outside cable and pole lines and underground conduits and such as that. I do not know what the composite age of the plant is, that is, the average age.

3024 Direct examination.

Questions by Mr. J. D. Frank:

I know what the original cost of this plant was as is shown by the books of the Company. I am familiar with the amount of the gross additions that have been made in this plant during the last nine or ten years. I have made an estimate or an approximation of the amount of money which would be required for necessary extensions in the next ten years; I should judge that at least $3\frac{1}{2}$ millions of dollars would be required. I am thoroughly familiar with the plant itself.

As to whether or not the plant is economically justified, or that there is need for such a plant as this in the City of Houston, I would say beyond question, the City of Houston needs a telephone plant. The City of Houston is a growing prosperous community, many lines of business here; it could not go on without telephone service. In the present condition of the business and the conditions of various businesses and interests in Houston there is something which will indicate that there will be an increased demand for telephone service in this city; the demand is increasing and will probably continue to increase if the prospects are any criterion whatever.

I believe that this plant has been well constructed and well maintained. I doubt if there are many plants of like size in the 3025 country that are in as good shape and have been as econom-

ically constructed as this one has.

Taking the location of the plant as a whole, I think it is favorably located. I think the City of Houston is a prosperous and growing community. I think it is a good city for a business to locate in. In fact, I doubt if there are many cities more favorably located.

I would say that this plant has a potential earning capacity and

every reason why it should earn money. It is furnishing a necessary service to people who can afford to pay for the service that they need. Under normal circumstances the plant would be capable of earning

money.

As to whether or not this plant has been well engineered in the past, I think it has been well engineered. A great deal of attention has been paid to the engineering work, and a great deal of care has been used before the actual plant expenditures have been made. I know that to be a fact, because I have been directly interested in most of the expenditures that have been made here in the plant as it exists today.

I think the plant is being well engineered at the present time. I don't believe there is any waste money in this plant or that there has been any construction put in here that was done in a wasteful

I have made a study of this community, that is, of the City 3026 of Houston; I have studied the growth of Houston from all sources and and all angles and I have gone over the records of the city, or had them gone over and I have secured information from all sources that I could, the Clearing House Association, the Federal Reserve Bank, and numerous other sources as to the business.

I would like to introduce this Exhibit, as the City Book of Houston, published in 1917, which I believe is put out by the City of Houston. I did not prepare the book but I have studied the book very carefully and I found a great deal of very interesting information. Then I followed out the sources of information and from that and from information that I have secured, leading out from that book, I have prepared an exhibit which I want to introduce in evidence.

Mr. J. D. Frank: We desire to offer as Exhibit No. 39, Mr. Gates' exhibit, and in connection with this Exhibit No. 39, I would like to offer in evidence this Illustrated City Book of Houston, 1917, as Exhibit No. 40.

The documents referred to were thereupon received in evidence, marked "Plaintiff's Exhibit No. 39," and "Plaintiff's Exhibit No. 40," and are transmitted herewith in the Exhibit File.

On the first page of this exhibit, I have shown the growth of the city, its population, beginning with 1860. In that year the city had 4,845 people. In 1900, it had increased to 44,663. In 1910, it had increased to 78,800. I have estimated the increase between 1900 and 1910 at the same ratio as shown by the census from 1900 to 1910. In 1914, the population is estimated by the publisher, the

figure estimated by the publishers of the City Directory, and the estimate of 1918 is based on the scholastic population and that shows a population of 160,000 people. The population has doubled several times in the last forty or fifty years. My study shown that there has been a steady increase in the population of this city. On the page following is a diagram which illustrates this. That is, on page 2 of the Exhibit. That is a curve which I have prepared showing the increase in the population, beginning at 1860, a little less than 5,000 people and going up to 160,000 people in 1918. On page 3 I have shown there the assessed value of the property

in the City of Houston as shown by the City. There has been a steady increase in the assessed value per capita. In 1901, the total assessed value of the City was a little over 27 millions, which amounted to \$582.46 per capita. In 1910, this had increased to \$808.96 per capita, and in 1919, it had increased to \$936.64 per capita. The total increase in assessment from 1901 to 1909 expressed in percentage has been 444.3 per cent, and the increase in the assessment per capita for the same time has been 60.8 per cent. The next page shows a curve which shows the assessed value per capita for each year from 1901 to 1919, and shows clearly how it increased per capita. The curve shows a very marked upward tendency from the beginning, and the reductions are due to some changes in the method of assessment.

The next page of my exhibit shows the bonded debt of the City of Houston; between 1900 and 1901, this was \$3,085,000.00, 3028 or \$65.26 per capita. In 1918, this had increased to \$15,474,-

750.00, or \$96.72 per capita, an increase of 401.6%, the total, or 48.2% per capita. The next page is a curve which shows that; it shows that the debt goes along fairly level until 1912, and then shows a marked increase per capita, showing that the credit of the City must have been good or it couldn't have sold the bonds, indicating to my mind that other people thought this was a prosperous

3029

The next page shows the cost of the municipal improvements in the City of Houston; in 1901, this cost amounted to \$3,667,225.00, or \$77.58 per capita. In 1918, this had gone to \$23,108,802.00, or \$144.40 per capita, an increase in total cost of 532.7%, an increase per capita of 86%. The curve on the page following shows the increase per capita,-shows a very decided upward trend, indicating that the City has accumulated a very considerable amount of prop-The next page shows the revenue of the City of Houston from all sources, except bond issues. In 1903, this revenue amounted to \$787,586.00, which was \$14.87 per capita. In 1918, this had increased to \$3,686,501.00, which was \$23.04 per capita. The increase in total revenue of the City between 1903 and 1918, was The increase per capita in the same period was 54.9%, a very considerable increase. That indicates that the City is in a fairly prosperous condition or that it has been going forward, and it also indicates that the people of the City have accumulated considerable property, or they couldn't afford to pay an increase of nearly 55% in their taxes. The increase per capita is shown by a

curve on the page following.

The next page deals with the expenditures of the City of Houston. In 1903, these amounted to \$695,748.00, which was \$13.14 In 1918, the expenditures were \$3,486,500.00, which was \$21.79 per capita, an increase in total of 401.2%, an increase per capita in the same period, of 65.8%. This would indicate that the increased cost of government is more than 65% per capita, since 1903, and I understand that this year will see a still further increase, judging from the budget. On the page following is a curve showing the fluctuations in the expenditures per capita. It shows a gen-

eral upward trend, in fact, a very marked upward trend.

The next page of my Exhibit shows the building permits issued by the City of Houston in the year 1902 to 1918, with 1919 estimated after having the actual data for about 10½ months, so there is about 11½ months estimated in the last year. Building permits in 1902 were \$958,000.00. In 1913, they were \$5,432,265.00. There was then a decrease during the War, but in 1919, it was estimated that they would be \$5,500,000.00. During the period from 1902 to 1919, inclusive, building permits aggregating \$54,818,600.00 were issued by the City of Houston, indicating to my mind that the City is prosperous and growing and that it is a community that is full of business, that has made for telephone service, in fact, for all public services.

On the page following, is a diagram showing the building permits issued by the City of Houston in 1902 and 1919, inclusive. This diagram shows the figures in a cumulative manner. That is, the figures grow as the buildings grow in the City. If we had no buildings in the City of Houston in 1902, we would have during that year \$958,000.00 built, and we have added each year as we go along until now we have something over \$54,000,000.00 worth of buildings in the City of Houston that have been built since 1902. Those figures over at the left-hand side are millions. That "0, 4, 8, 12, 16, 20," etc.,—dollars, beside that, millions of dollars.

The next sheet shows the bank deposits from 1910 to 1919, in-I think that shows beyond the question of a doubt that the individual people of the City of Houston have been prospering finan-Bank deposits are shown as near December 31st, as possible. The call was made on different dates in different years. The 1919 figure was the November 17th figure, but since that time there has been a call as of December 31st, and there is a slight difference, I think, of about Two Million Dollars less. In 1910, the bank deposits were \$28,910,930.00, which was \$366.88 per capita. there were \$98,087,994.00, which was \$613.05 per capita. This was an increase in the per capita of 67.1% during this period, a total increase in the bank deposits of over 239%. I think that clearly indicates that the wealth of the City is increasing and that the people are The next page shows a curve showing how the prosperous people. bank deposits per capita have fluctuated between 1910 and

bank deposits per capita have included between 1970 and 1919. There was a decrease in 1914 and 1915, due to the first flurries of the War. From that time, the trend has been almost steadily upward. I don't know of any better indication of the wealth of the community than its money.

On the next page are the bank clearings. These are shown from 1914 to 1918, inclusive. I might say that prior to this date, the Houston Clearing House Association was not a member of the National Clearing House Association, and its figures contained some items that made them different from other cities, and made it impossible to compare them. So I have taken the figures since 1914. The clearings in 1914 were more than \$422,000,000.00. The total increase was over 87%. The increase per capita was from \$3,265.00 in 1914, to \$4,945.00 in 1918, an increase of 51.4 per cent per capita. On the page following is a curve showing the bank clearings per

capita between 1914 and 1918. It will be noted that there was a slump in 1915, but since that time the increase has been very marked. Everything that I have been able to get, all the statistics that I have been able to gather, everything that I have been able to learn, indicates that Houston is a very prosperous community, that it has increased in wealth, and apparently it has a future that is very bright and it is going to continue to increase. We have found that in our business we have had no serious complaints from subscribers that I know of regarding the higher rates that were in effect through Feb. 1, 1919, to July 31st. In fact, during that period, the number of ap-

plications for service increased more than 40% over the same 3032 period of the year previous at the lower rates. The daily newspapers indicate that the people generally are in favor of

paying a higher wage to some of the City employees. In fact, there does not seem to be much objection on the part of the people or much complaint about expenditures.

(By Mr. Howard:)

"Q. How would you like to submit the matter to a referendum?"

"A. What did you say?"

"Q. How would you like to submit the matter to a referendum vote?"

"A. I don't think that is the way to do anything of this kind.

don't think you could ever get the general public.

The general trend of people who get out and talk about this thing is that they are willing to pay a reasonable price, what we find in talking with our subscribers, they say we are willing to pay you a reasonable price for the service. The referendum doesn't get the people who are interested. Lots of people vote who really have no interest in the matter.

Mr. D. A. Frank: You had a referendum about the first of March, after the rates were raised and the people kept the service after the raise.

"A. (continued). They not only kept the service but as I said there was an increased demand of about 40%. The trouble with a referendum is the point I tried to bring out, there's lots of people vote besides just telephone users."

(By Mr. J. D. Frank:)

"Q. Mr. Gates, I believe they had a referendum in which they voted down the increase in street car fares after the City had passed an ordinance allowing increased rates?"

"A. That's my understanding."

Mr. Howard: They would vote it down very promptly if they were given a chance to do that.

Mr. Duls: They would vote down paying taxes too, very promptly,

if they were given a chance to do that.

I have determined what in my opinion constitutes the value of the property of the Southwestern Telegraph & Telephone Company in the City of Houston, and basing my opinion on all of these things, as the original cost as shown by the books, my estimate of the cost of reproducing the property in its present condition, the condition of the plant itself, the necessity for such a plant as that in Houston, the amount of its outstanding stocks and bonds, if that has anything to do with it, the past history of the community, and its present prospects for the future, and on my opinion as to whether or not this plant is capable of earning money under normal circumstances, not less than seven millions of dollars in my opinion, is the value at the present time of telephone property of the Southwestern Telegraph and Telephone Company which is being used in the City of Houston at this time for the purpose of furnishing the public with service.

Cross-examination.

Questions by Mr. W. J Howard: 3034

It is more than the books show we paid for it, but I don't think

the cost is the measure entirely.

Mr. D. A. Frank: The books only show the physical cost, too. After Mr. Burleson put up this increased rate there was an increase of something over 40% in the demand for phones. We did not advertise or send out any soliciting agents during that period, nothing more than we did in the previous year.

"Q. That shows what a clamor there is for telephone service, and

big demand for it?"

"A. I think the City is growing and the people want telephone

"A. You have to keep your applicants pacified and give them

excuses-"A. (Interrupting.) We have difficulty in placing telephones,

"Q. You have a trouble man to stand between you and the de-

mand for telephones?"

"A. We will probably have more difficulty if we are unable to pay for material to build this plant and extend it, that is without getting a rate sufficient to expand this capital."

"Q. At any rate, you have subscribers clamoring for service?" "A. Oh, we have subscribers coming to us. It is a fact that we

are unable to take care of the business at this time.'

"Q. You have more demand than you can supply?"
"A. It is a fact that we have more demand than we can 3035 supply, for various reasons.

(By Mr. J. D. Frank:)

"Q. You are unable to get various types of equipment, on account of shortage of material?" "A. Yes, sir."

(By Mr. J. D. Frank:)

"Q. You don't know that that same condition would exist if the people of Houston were today without service for three or four years, would it?"

"A. Well, if a city as large as Houston went without this service for three or four years, they would get out of the habit of using telephones to a certain extent and they would have to be reeducated."

"Q. That is the reason you say it would cost money to attach the

business in case the business was destroyed?"

"A. Yes, one of the reasons. If a man came to the office and put in his order, it would cost us some money to attach that business."

"Q. It is costing you money all the time to attach that business even though they do come to your office?"

"A. Yes."

3036 James E. Allison, a witness for complainant, being duly sworn, testified as follows:

Direct examination,

Questions by Mr. J. D. Frank:

My name is James E. Allison; I live in St. Louis, Mo.; my occupation is that of a valuation engineer of the firm of James E. Allison & Company. That is the firm that is doing business in St. Louis, Mo. I am a valuation engineer connected with that firm, I am the head of the firm. We make valuations of Public Utilities, confine ourselves almost entire- to that, for rate cases, for reports to bankers, for examinations, trust funds, etc.

With reference to just what experience I have had which qualifies me as a valuation engineer, after graduating from College, Harvard University, I became a student engineer in the Cordage at Xenia, Ohio, and in the Star Cotton Mills belonging to the same firm at Danesville, Ohio, specializing on power plants and making designs.

After that I was a student engineer in the Xenia Gas Light & Coke Company where we had construction work 3037 and operation of the Gas Company. Afterwards became Manager of the Company. I then removed to Nashville, Tenn., and became Manager and Chief Engineer of the Southern Manufacturing Company, which manufactured street railway equipment, and was also at times the Consulting Engineer for the United Railways at Nashville. I volunteered in the Spanish war and became Captain of Cavalry and Adjutant of the Regiment. After that I came to St. Louis and opened an office as Consulting Mechanical and Electrical Engineer. That was in Ninety Eight. One of my works there was the construction and design of the combined telephone and signal system for the street railroads. I worked about 2 years on that. In 1904 I was made Consulting Engineer for one of the Departments of The World's Fair, and had charge of the design and erection of combined telephone and signal apparatus for the Gates of the Fair, to take care of the people coming in and to have what was called a secret place where all the people were registered just as they came in by electricity. After that, just about 1906, I was made Chief of the Bureau of the Department for Inspection of Boilers and Elevators of the City and Chairman of the Board of Examining Engineers, examining the power plants. In the early part of 1909, I was appointed Commissioner and Chief Engineer of the St. Louis Public Service Commission. That was a Commission created to make detailed valuations and recommend rates and regulations for all public utilities for St. Louis, that was in the early 1909. There were three commissioners. I was appointed Commissioner and Chief Engineer. It was my duty to organize the engineering force, to lay out the methods

3038 of valuation which was then pioneer work, and receive detailed valuation of all the equipment in St. Louis. The amount of work we did there amounted to about \$107,000,000,00 in

four years: Public Utility Property.

As Chief Engineer those valuations were made under my very close supervision; you might say by me. Of course, we had quite a large force of men. They were under my personal supervision and you might say direct and minute supervision. In 1914, there was a State Commission created and the City Commission practically lost its power. I resigned and entered the practice, general practice, of valuation and consultation on public utilities. Since then we have valued, well, I think with what we did on the Commission (By-theway, I took the engineering organization of the Commission with me, and many of them are with me now, with the consent of the Commission), we made detailed valuations of about \$250,000,000.00 of property. We have been in consultation with Public Utilities, in consultation capacity with valuations that amounts to, I think, two hundred and thirty or some additional millions, making altogether about \$580,000,000.00 that we have been responsible for more or The value of the property which we appraised ourselves in detail, about \$350,000,000.00 and about \$230,000,000.00 that we have been in consultation capacity in, and I think, let's see, well you might run the figures way up by saying that we acted in a consulting capacity to the President of the Conference Committee on the

Valuation of the railroads of the United States.

The President Conference Committee is a committee of Presidents of railroads who had direct charge of the valuations of the railroads as they are presented to the Interstate Commerce Commission. They supervise what is done by their attorneys and engineers. The connection I had with this conference was only

in a consulting capacity. I made the report to them on some of the

methods and theories of valuation.

During the time that I was connected with this St. Louis Public Service Commission I had occasion to appraise telephone property; we appraised in detail the Bell Telephone System there and the Kinlock System. Since then we have appraised telephone properties amounting altogether to about \$45,000,000.00. I say since then, I mean including what we did there. Our appraisals of telephone

properties in detail, detailed appraisals, not reports, has been about

\$45,000,000.00 of telephone properties.

My work as a valuation engineer is not confined mostly to the State of Missouri; we do work all over the World, Pennsylvania, Illinois, Missouri, Arkansas, Texas, Kansas; in fact, wherever we are sent for to do it.

Up until the time I made an appraisal in this case I had done valuation work in the State of Texas, one report made for the City of San Antonio on the telephone property there. There was a law suit there and we were called in to make a valuation of the property and advise the City as to whether they should go on with the suit or not, that is, there was rate litigation between the City of San

Antonio and this same Company, Southwestern Telegraph 3040 and Telephone Company. We were employed by the City to make a report on the valuations of the Southwestern Telegraph and Telephone Company in that city; it was either last year or the year before; I think it was 1918. It was while the Camp was I have heard that the city accepted our report on the valuation of the property there. Yes, I understand they accepted our report and the litigation was dropped. I do not recollect our valuation of that telephone property there compared with the valuation

which has been placed on it by the Telephone Company.

In this valuation work that we have been doing, we have got a principle of telling our clients that the results are going to be the same whichever side we are on, and I have lost some business that way and I expect the bulk of our business, you see, we have made valuations for the City of St. Louis since I have been off the commission, a very large part of it has been for the cities. We acted in a consulting capacity for the City of New Orleans on their street railway properties, and a large amount for the City of St. Louis. We made a valuation in 1918 for the City of St. Louis in their case before The State Public Service Commission in connection with the street railroads. We were retained by the City. We desire to have work from both sides. We make valuations for either one side or the other, and our results are not influenced in any way or deter-, mined by whichever side employs us, that is understood before-It ought to be understood in every engineering report, and I think it is part of the ethics of the profession. I never had but one time in my history where anyone offered or asked me to bring

in any report for any purpose. That was only once. I did 3041 not take the case.

We have done other valuation work in this State; we made the valuation of the Lighting Property in Houston in 1914 in the rate case against the City, for the Electric Light Company; we made

that for the Light Company.

I am a member of the Lawrence Scientific School of Harvard; I am a member of the American Society of Civil Engineers; member of the American Society of Mechanical Engineers; American Economics Society and other organizations. It is not an economic society, but it is an engineering organization. I forgot to mention

that I am a Lecturer for Washington University. Washington

University is at St. Louis.

I was employed by the Southwestern Telegraph & Telephone Company to make an appraisal of its property in Houston. not instructed, nor was any request made to use any certain method in valuing this property or appraising it. Our report, however, is based on an effort to get a measure of present value, and the report

is its reproduction cost.

I have made an appraisal of the property of the Southwestern Telegraph & Telephone Company in Houston. In making that appraisal we have used, as closely as we could, present day prices. We use present day prices because we wish to get a measure, as close a measure as we could get, of the present fair value of the property, and to do that we considered that we had to use present prices. to whether or not prices of material and prices of labor are

pretty high at the present time, I will say prices are comparative, if you compare prices with what they have been they 3042

would be considered high, but perhaps in a few years we won't consider them high, but comparing them with past prices, they are

In my valuation work I have occasion to be familiar with the prices for a number of years back. I am familiar with the prices which in a general way existed prior to the beginning of this World War which we have just gone through; we have eleven years' records in our office of prices and we have practically a complete record of vouchers and bills of all these companies, and they are all indexed, and copies of their contracts, and it forms a rule for records, and they have there all the prices practically of the material that enters

into the make-up of public utilities since 1909.

With reference to the history of the prices of material since 1909, they were comparatively stable until the influence of the European War reached this Country, when we went into the war. There was not a general increase in prices of material between 1909 and the The prices were quite beginning of 1914 when this War started. In fact, in making valuations before the war, the original cost and reproduction cost, so far as physical property went, would come out very closely together. There was a long period of comparatively level prices and I think we may look for another period of comparatively level prices.

I would say that prices between 1909 and 1914 were pretty If there were any changes at all it would be due to the gradual advance of labor coming from the greater accrued

power of the labor unions. The general tendency would be upward, but it would be very general. There was an upward general tendency.

I would say that in the early part of 1917 this country began to feel the effects as far as the high prices were concerned of this European War; 1 do not recall the curve, but I have it here with me, anyhow it was along about that period.

From my study and from the information of these various prices in the past and at the present time, there is nothing which would indicate that we may expect cheaper prices and cheaper labor prices in the near future, in my judgment, I don't think you will.

There is a great deal of shortage in the market of construction material, I mean by that, for instance, that all the cities are underbuilt, most of them, the prosperous cities' building has been neglected naturally during the war. We had to catch up with that. space can hardly be found in most of the cities. The railroads have been neglected to the point where it is estimated it will take \$3,000,-000,000.00 to put them back in good shape. That all represents work and material. Of course, the basis here, as I think, of it all is labor, and labor seems to be advancing instead of going down. There is no indication that we are going to have any reduction in the prices of labor in the future; I think there can be no reduction for some time. It would be a very dangerous thing if there were

any causes creating a reduction in the cost of labor, and I

3044 don't think it is going to be brought about.

As to whether or not there is anything else besides this shortage of production which I speak about, which, in my opinion, would tend to keep up the high prices which I am speaking of, if you take lead, the cost of lead seems to be advancing. Copper went down a little while ago due to their accumulating a great store of copper while, I think, the war was going on. Copper, however, is a pretty well controlled article. It is lower now than it was during Timber, we can look for a steady advance in timber. the war. Leather is going to be not much lower because there is really a shortage of cattle, and you can look over the whole field that way, if any one gets at it soberly, they will hardly hope for any lowering of prices in construction or manufacturing unless we have some very great improvements in the efficiency of manufacturing. can't foretell that. There may be and there may not. generally happened for a long time, and there has been high cost after these wars and prices have stayed up until there was a greater efficiency obtained, due to the invention generally of machinery. After the Civil War, labor, for instance, has never returned—the labor index cost as gotten out by the Government or calculated from the Government reports, labor has never returned below what it was in 1865. It has gone up comparatively steadily.

The Armistice has been signed for something over a year now and there has been no appreciable reduction in either the prices of material or the prices of labor; the prices of material, for instance, in

telephone work have been advanced in the last month con-3045 tinually. Of course, nobody knows how high it is going up, but we can't see any indications of its getting any lower for a long period of time if it ever does. Money itself, throughout the history of the war, has always become cheaper and cheaper, which makes prices always advance.

I have prepared a report as to what it would cost to reproduce this property of the Southwestern Telegraph & Telephone Company. The report was thereupon offered and received in evidence marked "Plaintiff's Exhibit No. 60, witness Allison," and is transmitted

herewith in the Exhibit File.

On page 3 I have a summary of the reproduction cost of the physical property. The first item I have there is Land. As to the cost of reproducing the land which is \$215,187.50, the details with reference to that are shown on page 12. In appraising that land we took the judgment of a local real estate expert, Mr. George Wilson, and they are the same figures that were obtained by Mr. Hoag. The price of each particular piece of land is shown on page 12.

With reference to buildings, which is the next item on page 3, we found the reproduction value of the buildings was \$476,300.00; we got at that practically in the same way. We took the bids of contractors in Houston, and on page 12 each building is shown added up making a total of \$476,300.00. The contractors that I am speaking of are the contractors on the Preston building, the American Construction Company for the building, the Warren Company for heating and plumbing, the Barden Electric

Company for electric wiring and the Otis Elevator Company for elevators. On the Hadley building, Mr. Baring for the building, Warren Company for heating and plumbing, and the Those were the same Barden Electric Company for the wiring. gentlemen who made estimates for Mr. Hoag; we took the local bids estimate in preference to making a detailed estimate. we got those figures we did not include anything for Architects' fees. It is customary to include the Architects' Fees in estimating the cost of reproducing a building; that is a matter that you would have to pay if you were reproducing the building. With reference to the customary fee, the American Institute of Architects, I believe, specify 6% on business buildings, they used to charge 5%; on residences it runs anywhere from 71/2% up, and on alterations it would run higher. I do know too, a conservative allowance on that for Architect fees would be 5%, but we haven't included it in there, in fact, that might be called an omission and contingency but we did not include it in there; it would perhaps be justifiable.

My next item of the property on page 3 is the Distribution System for which I have \$2,599,485.66; the details shown with reference to that particular part of the property begin on page 13; there are further details in my table on page 13. That is an intermediate

table, however.

For the purpose of illustrating how I have appraised the property, taking on page 13, for instance, a 25-foot Class "C" Pole, we obtained actual prices from the dealers in poles. We took those prices and applied our estimate of the cost of installation,

3047 freight, etc. Now those estimates I did not carry in my head, but I have them here if you care about them. I have got as the cost in place of a pole, \$9.42, that carries installation with it, that is, the cost of the pole in place. Regarding the details of this item, in that 25-foot, Class "C" pole, the cost of the pole is \$5.35; freight, which has to be applied after getting the freight rate from the Government, the Railroad Administration, is \$1.66, that is, total F. O. B. Houston, \$7.01; we have applied an installation cost there of \$2.41, making a total of \$9.42. As to where we got the prices with reference to the price of these poles, we have quotations coming into our office from the pole men. We got these prices that were used here from the Western Electric Company. As to why we went to the Western Electric Company to get prices, we would have gone to several, as a rule, but we had gotten prices from them before and we went to them because they were the easiest practical, and we

could get them quickly. We had to get them very quickly.

I have been in this business for a good while and have investigated the prices of material a good many times, and I have had occasion to draw comparison between the prices of the Western Electric Company and the prices of other suppliers on telephone materials; we have made valuations of Independent Companies considerably, and we once had a study made in our office to see, as a matter of curiosity and information to ourselves, we didn't know we were going to use it, we found that the Bell Telephone

Company buy a little cheaper on the whole than the Independent Companies, that is, for the comparative items. That was made some years ago and I remember the results very clearly. That is, that the Bell Telephone Company receives better prices on the materials which they used than the Independent Companies get. By-the-way, in getting these quotations from the Western Electric Company on poles we got a quotation on a large lot of poles; we asked for prices on a lot of 17,000 poles, told them the quantity of poles that we wanted, but did not tell them what we wanted them for, in fact, where they were to go to, we wanted to keep out of that if we could. In getting our other prices from them we didn't even tell how many stations there were in the plant that we had in mind, but gave them a margin figure. So far as I know they may have known what we desired. We put it that way. We didn't care

In the building up of our unit costs in this case, I have proceeded on the theory that we would construct this plant on a wholesale quantity and our prices are built on that basis. We asked for a price on 17,000 poles, and that is true with reference to the large quantity of the other parts of the property. In our Central office equipment, getting the present prices, we asked them for a quotation on a plant with between twenty-five and thirty thousand sub-

about them knowing it. We don't know what they know.

scribers.

On page 16 with reference to Aerial Cable, we have a price there of 90 cents a foot installed, 200-pair cable. We have labor and miscellaneous material, 7.8 cents; labor and miscellaneous material

on porch supplies and terminals, 3.4 cents; cable itself, 68.7 3049 cents; freight on cable, storeroom expense, drayage and return freight on reels, 10.31 cents, making a total of 90.21 cents.

With reference to the rest of my distributing system, I have worked all that out in detail that way; it is worked out in detail. have figured out the price of the material, then the price of labor and everything that goes with it, and have estimated the cost of the particular quantity of property in place, in other words, I treated all my Distributing System just as I treated this pole and these cables and that illustrates my method of appraising that prop-

On page 3 of my report, at the next item there, Subscribers Station and P. B. X., which is Private Branch Exchange, the figure we get for that is \$373,457.01; the details with reference to that are shown on pages 32 to 34. That is the telephones sets, installations

and private branch exchanges and so on.

In appraising that property we got the prices of the equipment from the Western Electric Company, and checked those with vouchers-we didn't get all of them,-checked those with vouchers and records in our office using, wherever we could, present prices from the Western Electric Company. That is under installation on page 33; installation is figured separately.

Wherever we have that "Unit Cost," that does not mean the cost place in the station equipment. The station installation is carin place in the station equipment. ried on another table at the bottom of page 33, and that is the cost of installation, added to the cost in the table above

3050 which would make the cost in place.

"Q. I notice in one place, Mr. Allison, you have on page 33 under station installation, Subscribers Station installation, Subscribers own quantity, \$2,263.00, unit cost 50 cents. Now why is there any cost

"A. That is the cost of connecting it, what we think the cost of the company would be, a round figure. We have all the details worked out with reference to that and can give it if Counsel for the City desires. Of course, to give details back to the ground, we would have to bring a car-load of records here. To give details back to the very foundation of everything that we consulted in making these unit costs, we would have to bring all of our records, practically all of our records on telephone property, but I could tell

them what part was marerial and such as that. My next item on page 3 of my report is "Central Office Equipment"; we get for that item \$1,174,257.00. The details with reference to that are shown on page 34 to page 99; on page 34 is a summary of it, at the bottom of page 34. In appraising that particular part of the property we appraised that as original cost, for the reason that we could not get from the Western Electric Company any detailed prices on it within the time we had to make this report. So we took the inventory as furnished by the Company and priced it up at original cost. In doing that we had vouchers of the Company on nearly all of this material or a great part of it, and we had our own records as to cost, original cost, that is cost, say as of 1914.

Now we took that original record and we added 55% to it. We did that because we found that that was as near as we could get information as to the advance in this character of material

since 1914.

Mr. Howard: What is that material, Mr. Frank? Mr. J. D. Frank: That is the Central Office Equipment at the

bottom of page 34. Added 55% over the 1914 cost, that is, 55% over what it originnally cost, and then we arrived at this figure of \$1,174,000.00. After we had gotten it, we got a statement from the Western Electric Company which gave us their estimate on these different exchanges. Those are not the figures that we have down here, we used our own figures but their estimate. If we add our 5% of omissions and contingencies, which is necessary in an estimate, we come to the figure of \$1,232,970.00. Their figure as given as bids on this thing was \$1,242,514.00. In other words, our estimate when we put in our percentage for Omissions and Contingencies was within \$10,000.00 of what we received an estimate on.

We undertook to make an estimate of what it would cost to reproduce this central office equipment; we used 1914 prices, then added 55% to that as the increase, and then added 5% for Omissions and Contingencies, and then later we received a bid, as I call it, from the Western Electric Company and their figures was something like \$10,000.00 greater than the figure which we had, of course, that

coming so close there was somewhat of a coincident. They do not always come that close. It is a peculiar coincident, but it showed to our mind the necessity of omissions and contingencies. Our estimate without the omissions and contingencies would have been considerably lower than that. The details of all that Central Office Equipment are shown on the following pages, our P. B. X., I would say, by-the-way, the details on that which we did the same way were omitted by the printer; we can furnish it if necessary. I have got a summary of it.

"Q. Did you consider the prices for Houston only on that Cen-

tral Office Equipment, those vouchers that you used there?"

"A. We used those vouchers. They are the same prices. They

get the same prices at other places."

Item 6 on page 3 is the bare cost of labor and material of an estimate on an Inventory without omissions and contingencies. Omissions and contingencies, of course, are intended to provide for the physical property, and it is cost omitted from an inventory for con-

tingencies in construction that cannot be foreseen.

In our item of Omissions and Contingencies we have taken 5% there which is an orthodox figure and is the result of engineering experience all over the world in making estimates and valuations. Whether it is high enough, I don't know. You can't tell. It is to take care of the things that you don't know about. If a man had a bill of material or some specifications for a building contract and was going to make a bid on it, before he arrives at his price he puts in as percentage for things that he didn't know about, for

3053 things that he had omitted or contingencies that might arise in the building of it that he couldn't foresee. Every estimator adds something to his bare figures of expending quantities of material to the price. If he didn't he would come to grief.

We did not apply omissions and contingencies to buildings because we had a bid figure on that; we considered it as a bid figure. Now, we considered that that was a bid. We used it as a bid, that that would be all the Company would have to put out, that would, however, imply that the Company gave complete specifications of what they wanted. In erecting buildings it is always found out that

there is something else wanted that is not in the specifications, in fact, one of the most prominent builders in the United States told me that they made their money on the changes in specifications. He was commenting at that time on building a building for John D. Rockefeller, and he said he couldn't get him to change a door knob

and he didn't make any money.

Even after you have got your building constructed and it is generally on a bid, if you have certain omissions and contingencies in connection with that building the contractor would stand it unless the specifications were changed. As a rule, this builder told me, the specifications are changed, and that is where they make some We assume, taking the most conservative view of it in this case, that you had complete specifications, that the builder put good profit. up just what you wanted, and you didn't want anything changed Now, if the facts as put to these bidders who furnished these figures were different from that, we didn't understand, in fact, we Omissions and contingencies didn't know the details of it. under ordinary buildings ought to go on there.

figures ought to go on ordinary buildings also, that is an

oversight.

(By Mr. Howard:)

"Q. You are an engineer, mechanical and construction engineer, and you start out to reproduce a building, and the first thing you overlook was an engineer's fee?"

"A. It wasn't an engineer's fee. We didn't overlook that." "Q. You never heard of a lawyer forgetting the cost of a law-suit."

"A. I have heard of them taking 50% and not getting anything." "Q. Would you honestly say that that is an omission. that is so apparent to even a layman, that he wouldn't even start to building a building without figuring on architects' fees, that you come along and figure reproducing a building, an engineer now, spent a life-time at this kind of work, and the question of architect's or engineer's fees would never occur to your mind, and that you admit that, and you state that to be illustrative of the items of errors and omissions?"

Mr. J. D. Frank: He has not applied any Omissions and Contingencies to Buildings at all.

Mr. Howard: He is going to apply them good enough when he

gets to other things.

"A. Well, Mr. Howard, I would like to tell you that all of these figures are honestly done. I don't care about that part coming in.

These figures are honestly done. This thing shows on its face just This thing shows on its face just exactly what I did. It shows exactly on its face what I did. There Now do you think I did is no architect figures in there.

that for theatrical purposes? I didn't notice it." 3055 I will tell you why I did it, because I forgot it.

As to whether or not getting an architect is one of the very obvious and outstanding things that meets the mind of an engineer right in the beginning when he is confronted with a building, I am not making excuses for my overlooking that, but I did overlook it, and I omitted it because I forgot it. It is an illustration of omissions, a very good illustration too, no matter having spent years on these things, I could overlook that architect's fees ought to go there and I did overlook it. Oh no, I might not as well omit a roof. have not included anything in here on account of having omitted that architect's fee; this was all made up before I noticed my mistake. I did not apply omissions and contingencies because I took that as a bid. What I did forget was that it was a bid by the contractor and that the Company would have had to submit to the architect plans before they got the bid, that slipped my mind.

(By Mr. Howard:)

"Q. You would have to have somebody watch the building while they were putting it up, that is part of the architect's fees, supervision, not only submit plans to him, but a prudent man would have somebody supervising the building that understood the buisness while the building was in progress. wouldn't he?"
"A. Well, the architect very often does it."

With reference to the item of engineering we have included 5% on items 2 to 7. That is the usual engineering allowance made in valuations by the Engineers making the valuation. I would include something for Engineering because there must be Engineering plans for the plant. This is a reproduction, an estimate of reproduction, the originators of the enterprise would naturally call on engineers to make the plans and supervise the erection of the plant. They could not do it themselves. The promoter could not do it. It would have to be done by engineers, and is always done by them. That is an expense that is incurred in the construction of any property of any size, that is, property of No investors, unless they were very badly advised, would start anything like this unless they had very good engineering

advice even at the beginning.

Item 9 is Construction Administration. During the reproduction, or during the building of a plant like this as a whole there would be a considerable amount of administrative work to be done, the paying out of money, the dealing with the engineers, arrangement for payment for material; all of those things would require the time of people of considerable ability, and we put in there the round figures of 1%. That is the per cent that is usually allowed in a case of this kind, unless they have raised the engineering figure. Sometimes they include that in the engineering figure. engineering figure of 5% is very, very conservative. Your lighting plant here, we found that there were payments of 10% for engineering that had gone over quite a number of years. I imagine that a firm of engineers reproducing a large property like this, it might take 5.%, it depends a good deal on their reputation. Investors will

put their money into enterprises that are under the super-3057 vision of engineers of reputation, and it makes it easier to get the money. Engineers of reputation naturally charge just 3058

as lawyers, for that reputation. It balances itself, easy to get the money just as you take a bond issue of a County, and it is generally put on a circular that it has been passed upon by such and such They are known to be Those lawyers charge for that. good lawyers, and is one of the costs of putting out the bonds, just as this is the same way with reputations of engineers.

Taxes and Insurance are supposed to The next item is No. 10. be the taxes and insurance on uncompleted property as it is being We assume a construction period here of two years to reproduce the property. That is a period that would not be exceeded only if everything was favorable, and it would have to be quite

favorable to get this plant built within two years.

If other engineers in this case had testified, some of them, that it would take three years to reproduce this property, and some of them four, I would not say that their judgment is faulty. I would say that is the least possible time that it could be constructed in.

From my knowledge of this plant and the size of it and everything, I do not think that I could reproduce this property economically within a two year period. I- might be done, and that is the reason we took it, but I wouldn't like to take the contract, or be responsible for urging a contract which limited anyone putting it up

to two years. It would cost a great deal, rush work would. "Q. I heard you use the word "conservative" a few moments ago. Mr. Howard has in a way objected to that word

at times. I went over this report with you, did I not, in places, asked you if any of those figures were conservative? Do you remember my asking it?"

"A. No, I don't recollect it at all."

"Q. I did not prompt you to use the word "conservative"?"

"A. Well, it is a word that has to be used in getting things whether you put out a conservative estimate or a liberal estimate

It is a thing that expresses the issue."

Item 11 is the Interest. We took a construction period of two years, and we have calculated interest during construction for the minimum, that is, for one year. That is the interest on the money as it goes into the plant of which the investors are deprived. They are deprived of that interest and it is a part of the investment. That

is a conceded item in all valuations.

The rate of interest we used was 8%; we considered 8% as probably the lowest figure for reasonable return, and as soon as money goes into this enterprise, put into anything, it partakes of all the risks of the enterprise, and is entitled to the same rate of interest as it would be entitled as a reasonable return. A man would only have to put himself in the place of an investor to see that, that he takes a certain risk, and expects a certain return, or he would not go As to what I consider is a fair interest rate, I would say to use the same word, very conservative. I understand you

get 8% on mortgages in Texas. Item 12 is the complete construction cost of the plant outside of Tools, Automobiles, Office Furniture and Fixtures, etc., out-

side of these items below it.

Item No. 13 is Tool Account. We took the book account of the Company for that, or rather they furnished us with the book account for tools. In making up an inventory the tools, furniture and fixtures, and those things, if they were done in detail, would require probably more work than all the rest of the plant. So it is customary, to save expense, to take book figures on those things unless you get at some other short method of estimating it. The list is so long of comparatively unimportant items, we took the figures furnished by the company here, and they are supposed to be book figures.

We did the same thing with reference to Automobiles and Horses, Wagons, Motorcycles, etc., item 14 on page 3 of the Exhibit, and

also with item 15 on Office Furniture and Fixtures.

Item 16 is the total of all of the physical properties outside of

Working Capital and Supplies.

Item 17 is an item of Working Capital. The supplies go into that. We took the figure furnished us by the Company. Then we placed what was, in our judgment, the proper amount of cash for a company of this size to have in its operation, cash in bank, or cash in accounts of subscribers, but there is always a permanent bal-

3060 ance of good accounts, not necessarily the same accounts, which are owing to a company of this sort; that amount belongs to the Company, but it is in these permanently. They cannot get it out. \$125,000.00 would carry that. In fact, the general way of figuring these things when you haven't these detailed books before you—by the commissions, is to take six weeks' operating expenses, six weeks' operating expenses here would be very close to \$100,000.00, I think Ninety-nine thousand and some dollars. We take that orthodox figure and add \$25,000.00 to it for this item of permanent balance, and also for the item of immediate cash for extensions. There is always something for that. The smaller extensions, you will have to have money to put them in before you can get actual capital from financing or from your sources of capital as a whole. The \$125,000.00 is merely an estimate on our judgment from examining some \$350,000,000.00 of this kind of property.

The total Physical Property is \$6,092,058.20.

Yesterday I mentioned a bid of the Western Electric Company on central office equipment for the Houston exchange, and I gave that figure as \$1,242,000.00, which is something like \$10,000.00 more than we have estimated when we include our allowance for omissions and contingencies. The price given to us by the Western Electric Company was the price to one of the associated companies.

The part of the property I have been considering up to this time is the physical property. In my appraisal of the physical property I had not included any increment because the property constituted an assembled and established plant, doing

business and earning money.

In item 18 we have cost of establishing business \$1,794,124.00. That is our estimate of the cost to establish the business as it stands today,—to get the capital. There are really three elements there.

the cost to initiate the enterprise and carry it through the initial stages. That is taken up by the promoter as a reward for the promoter and a reward for legal and organization effort and the cost of getting money. That is like the cost of getting bricks, or anything else. People not used to thinking clearly on these subjects are apt to neglect it, but it is an absolute cost. And then comes the other elements, or the cost to establish the business after the plant is built. I have made an estimate of what it would cost to reproduce this business the same as I have made an estimate of what it would cost to reproduce the physical part of the plant itself; the business is a necessary part of the plant.

"Q. You know that you would have a cost of that kind if you started in to reconstruct an exchange or build an exchange of this

kind?"

"A. To create a property of this kind, the business is a part of the property. Without that part of the property, the property is valueless, except for scrap. I show this in detail on pages 6 to 10 of my report; I show in detail our reasoning in arriving at our pages of the cost of establishing business and getting the

3062 estimate of the cost of establishing business and getting the money."

In any large enterprise,—and we are setting up here a reproduction of this enterprise as it stands today, a \$7,000,000.00 enterprise, there must be someone to start it; there must be someone to initiate and get going the forces which will finally result in the plant and in the business. Those services are always performed in a large enterprise, generally performed by men called promoters. The name has gained some bad odor on account of practices of promoters in getting part of their reward sometimes by deceiving the investing public as to the value of the security created. However, whatever the reputation of promoters may be, the office of the promoter is a neces-It has come now so that respectable firms sometimes sary thing. take up promotion and the old reputation is dying away. ters usually get their reward in a speculative way; sometimes they get a very large reward and sometimes they don't get any. In making our estimate here, we have tried to set up the hypothesis that we would reward the promoter with a speculative reward, and we have put here the sum of \$50,000.00 as the amount that would be required to get a competent promoter to take up this enterprise and start it. Promoters, as a rule, have to be men of ability,-men generally used to dealing in large figures and with a pretty good idea of what profits they want. We had some measure of what the promoter would charge in the knowledge of one case where there was a \$50,000,000.00 company promoted, and in that case the

a \$50,000,000.00 company promoted, and in that case the promoters were a firm of bankers. They charged a \$1,000,000.00 fee and got it. That is 2%. I don't know that they based it on percentage, but that was their fee. That is a case that I actually know of. That was the reorganization of the United Railways of St. Louis. Besides that, these same bankers got a considerable profit in the securities end of it; but that was their fee,—\$1,000,000.00, or 2%. Two per cent of our \$7,700,000.00 would make approximately \$150,000.00 or more. However, in making

this estimate of the cost of reproducing, we put it in at \$50,000.00, as a minimum. No one can tell exactly what the promoters would charge for it, but I hardly think we would be able to get men who could do it and do it well under \$50,000.00. That is a percentage of about two-thirds of 1% of the capital involved. The promoter would have to decide where the money was to come from, what was the best way to get it, and those things would differ very greatly in proportion to his ability. Fifty-five thousand dollars is a low estimate on the ability required for that kind of service,—the importance of the service. That is all the expense that is included in starting out a business of this kind and it cannot be avoided.

The second item, organization and legal cost, we have included \$25,000.00 for that. After the promoters have really started the thing, or during that time, there comes into being an organization called a company to take charge of this. It has to have efficient men to manage it during the construction period. One cost is the

heavy legal expense. In creating a property between \$7,000,-3064 000.00 and \$8,000,000.00, you would have to employ lawyers of high reputation and those lawyers would require good, round fees. I believe your best lawyers here in town, if they were asked to undertake the organization of a \$7,000,000.00 to \$8,000,-000.00 concern, would charge at least a \$25,000.00 fee. The importance of their work is very great, and the importance of their reputation is very great. Some people might say we could get a law clerk to do this and do that, but when you are putting out an enterprise before the investor, he has got to know and feel sure that the legal part of it has been passed on by competent authority. That is a benefit a lawyer gets for establishing a good reputation. They generally make their money along at the end of their lives, after establishing a reputation. The value they get is not entirely for legal service, but the value of the client in knowing it is right.

In addition to that you would have a considerable expense in organizing your forces and we have included for all this organization and legal expense, \$25,000.00; we think that is a low estimate.

Our third item here is Capitalization or initial risk. We have included in it fifteen per cent of item 18. That is the total physical property in Table No. 1, and items 2 and 6 in table No. 2. We endeavored to get 15% of those items which require actual cash in the

creation of an enterprise.

Capitalization of initial risk is the cost to induce an investor to take his money out of a tried enterprise and put it into an untried enterprise. If I should go as a promoter to an investor, or underwriter, the investor would say: "I want to put \$10,000.00 in this new telephone company." And then he would say: "What is it going to pay me?" And I would say, you are going to be allowed to earn a reasonable return,—it is a regulated utility. And he would say: "What is a reasonable return? Is it above what I can get in the other enterprise?" And I would say, no, sir; and he would say: "What is going to induce me to take my money out of something that I know has earned money, and I can assume that it will earn money, and put it in this new thing, unless I can

put it into something that will get the money." and then I say, you put in \$100.00 and you can earn on \$115.00; or in using the language of the financial world, I would say, we will discount this security; you get it for \$87.00, we will let you buy it at \$87.00, and you can expect it to pay dividends on par. Any man who has ever invested money and is a faith investor, knows he would not put his money into a new enterprise unless there was some inducement. It follows that you can not get money without an inducement, unless you deceive the man who puts his money into it. The sound advisor to investors today in utilities would say to them: "Don't go in unless you can get the consent of the regulating authority that this inducement to make you go in is to be capitalized." The facts that there is a small chance of that under the present methods

of regulation is, perhaps more than anything else, what is preventing new utility enterprises. I believe Texas is suffering from lack of railroads, and if it would be well looked into, it would be seen that they are not being built because there is no inducement for people to put their money into them. There is no way that they could make a profit over what they would make by lending their money out on farm mortgages. In other words, the investors are not willing to take money which they can put in safe and sound investments, where they know that they are going to earn on it, and put it into anything new that they know nothing The risk to an investor is the risk as he sees it. The apparent risk.—not as it actually turn- out. He is going to withhold or put in his money as he sees the risk, and any new enterprise that hasn't a record of earning behind it is subject to a discount; its securities are, unless you can fool somebody; especially a utility, where the future earning- are being held to a certain basis, are not going to be allowed to compensate him for his risk. The public themselves don't realize this fact. Very few people have thought it out, and yet, as I said, it don't take an expert to see it. It only takes a man who has some money and knows how he would act if he were approached on an entirely new enterprise. This matter is handled in this way in the beginning of new utilities and investments. Most utilities were started when regulation was rare. money was gotten then on the idea that they were going to make a great deal of money; that they would be untrammeled, and

our mail full of circulars of securities for sale at less than par. Nearly every time a new enterprise is started they come frankly and say, we will sell you this security at such and such discount and will give you some other kind of security: a bonus is very often used. Of course, I don't contend to measure the cost of initial risk by what any wild person might print on a stock certificate. This is not the measure, but it is what the conservative investor, in going into your enterprise, would be apt to estimate. I use the figure of 15%. Another man's judgment might be as good or better, but the idea is to put it in here to call attention to the fact that there is some cost there. There must be some inducement offered. The

measure of it is according to the opinion of different people. We

have put, I think, a conservative measure on it.

Item 4 on page 6 is the initial deficit. If this plant was built, and you had already gotten your money and you began to build up your business, it would take some time before the business could be built to a point where it would give a reasonable return. No matter how fortunate the circumstances, the least time of getting the subscribers connected, getting them fixed up, you would take, we have estimated here, three years. During that time you might be making some profit, but the history of most of them is that they do not; but if you were going to put the money in with your capitalization of risks at 8% and you knew for three years you were only going to get 5%,

you would say: "I am going to be deprived of 3% a year for 3068 three years on the return that I would be willing to take for my money. I want that capitalized or I will not put my money into the service of the public." That 3% for three years would make 9%. Otherwise, you would lose that 9%. item that is allowed sometimes—that item is allowed by Commis-This item is what is sometimes spoken of as deficit during the development period; that item is allowed frequently by Commissions, and sometimes it has even been called the measure of going concerns' value. I think the New York Court calls that early deficit, -supposed to be a part of the cost of establishing business. Some Commissions have even gone so far as to carry that on for years and years and years. We don't do that here; we give them a reasonable period, and if they don't make good, that is a part of the risk that they take, but for a certain few years at the beginning of the enterprise, the investor knows he is going to make his full return and knows he is going to be deprived of part of it and that it is capitalized. He is going to demand that.

Our next item is the cost of assembling capital. The reward for initial risk is something that goes to the investor. The man who puts up the money, takes it out of something else and puts it in. The money for a large enterprise like this is not all gotten from one place. It is assembled, may be, from all over the United States, assembled by means of investment bankers, salesmen, stock broker's salesmen going to different people and selling them a thousand dollars' worth here and a thousand and ten thousand dollars' worth there.

and a thousand and ten thousand dollars' worth there. It is done all over the country. It costs money to do it. These salesmen have to be paid and the investment bankers have to get their profit in order to stay in business. That money is gotten from all these sources and assembled, and in this case it would be assembled here in Houston to build this plant. The cost to do that, and it can not be done without cost, is just the same as freight or poles or anything else. The money has to be gathered from these different sources and brought together. That, we have estimated at 3%, which is quite low.

There is no duplication between that item of cost of assembling capital and your cost of promotion. The promoter's services are simply to start things. When he goes to get the money he has to go to the investment banker. It is the cheapest way, and legitimate

enterprises do go there because the investment banker, if he has a reputation, will not go behind something that has not been investigated. He investigates it himself. That is a part of his cost, and then he goes to his clients who have faith in him and says: "Here is something that I think is very good at the price," and sells it to him, and in that way gets the money which is remitted to be put in that plant. There is no duplication in that. No duplication in that and initial risk.

The cost of attaching business is the cash expenditures that the company has to make to get the subscribers connected up and ready to pay revenue and get them properly on the records. The

stablished. It is just like the records of a title guaranty company,—it costs money to make them. To imagine this telephone plant in Houston wiped out and another one being reproduced, we can take two views of it. One is that this is an entirely new thing, as it was when the telephone company started,—that the people have to be educated, and all that. That would create a very high cost and it is somewhat hard to grasp. However, unless you take that view of it, you are conceding to the reproducing parties a part of the value that has been created by the old company. However, we took it that way, and we have put in here a cost of two dollars per station to attach the business. That means the cost of getting the people on the books, aside from the physical connection. The usual cost, the actual cost that it does cost the company would be about four dollars, along in there.

I heard Mr. Kelsey testify yesterday it would be about five dollars per station; we have usually allowed about four dollars per station,

but whether he is right or we are right, I don't know.

We have made due allowance for the fact that the people of Houston are accustomed to telephone service, and have not gone about valuating that part of it from the standpoint that the people would not know about this telephone service. We have put in two dollars there under the assumption that the people would rush in knowing about telephone service, and take it. Two dollars is less

than it costs to get a proper record of the subscriber. We investigated the records in a case in Arkansas in which it cost two dollars and thirty-three cents merely to get the consumer properly on the books and properly connected. It takes time with the clerks and there are a great many different entries and cross entries and papers to be signed and records to be made. There is one inspection, perhaps, to see the property, where the telephone has to be There is an investigation, perhaps, of the people, not in located. every case but in a good many cases. We took this, of course, from the company's records, had to take it from the books, and all of those charges amounted to two dollars and thirty-three cents. two dollars here in Houston. That did not include the cost of making the physical connections. It is a cost of getting any record started. In our office we have very elaborate records and it cost us a great deal of money, not only to get them, but to keep them.

We do not throw off the thirty-three cents in order to be conservative; I don't know that I did it for that. In making a valuation of this kind we generally make some concessions to keep from wrangling when it don't make any difference with the result. I do not think I could actually go out here and attach this business for two dollars per station; I think it would cost more. I did not know that the records of this company show that for the State, as a whole, it amounts to about five dollars per station to attach this business; I know that the records in San Antonio show what it cost there, but I

didn't know what it cost in this State.

The total amount that I get on page 6, is \$1,794,124.00, and on page 3 I get as the total reproduction cost of this prop-

erty \$7,886,182.00.

I have not taken anything from this property on account of depreciation. I don't believe in it. There is a great deal of argument, theorizing on different methods of deducting depreciation. A number of years ago the general rule was to make a calculation by what is known as straight line depreciation, theoretical depreciation. That was a very savage method, created deductions of twenty-five or thirty per cent, even forty per cent. It was fallacious. It has been abandoned by most of the people who have studied this problem, and most of them have come to the point—

Mr. Howard: Has it been abandoned by the Supreme Court of the

United States?
"A. What?"

Mr. Howard: Allowing for depreciation.

I am not talking about depreciation. I do not deny there may be depreciation in the plant, but it is the method of measuring it. I don't think that that straight line method was ever adopted by the Supreme Court. However, if you will let me get on: There are still others who take the stand that 100% of the property is not necesstill others.

sarily a new property. The investors' money in most cases, never buys a new property. Most properties never are new;

they are built piecemeal. The investors' money can only buy permanently a property maintained at a certain high level of efficiency and replaced as the parts go out. There is a level which large properties sustain that is permanent, and it goes on as far as we can see into the future, so there will be no percentage of the property gone as long as it is allowed to replace itself. It is like a tribe of people, not like one man or one automobile or one building. People differ in these depreciation theories, like they do on religion. I think most people believe in their own salvation.

I made an investigation of the property here in this town; I inspected the property and, in my opinion, the property is above what we would call the normal state of operation. It is in better state

than, perhaps, it can be permanently kept.

(By Mr. Frank:)

"Q. Now, Mr. Allison, several engineers have testified in this case with reference to the condition of this property. Some say in 89% and some in 92% condition. Regardless of your belief about this matter, if this property is in 92% con-

dition what would be the reproduction cost new, less depreciation, as-

suming that the property is in 92% condition?"

"A. I want to say in the record that I do not believe that is the right way to get the value; but if you did take 8% off of this property -

That would be 8% off of item 18?" "Q. (Interrupting.) "A. If you take 8% off the depreciable property-No, sir, 3074 it would be 8% off of item 2, 3, 4, 5, 8, 13, 14 and 15. Eight per cent of that is \$389,808.91. If you deduct that from \$7,886,-182.20 you get a result of \$7,496,373.29. I make the deduction, but I am merely making a mathe-I do not think it ought to be made.

matical calculation in the record."

I am familiar with the original cost of this property; we did a great deal of work on the original cost of the property in our office; I am not familiar with the additions which have been made to this plant in the last nine years. I have seen a statement as to the additions to the plant in regard to subscribers, the growth of the plant, and I may have seen a table showing the growth of the plant in I have not got a statement of what money, but I do not think I did. the additions have been to this plant in the last nine years, but I know the plant has grown very largely. That did not enter into my work, except as a general judge of whether the city was prosperous and whether business was increasing or not. We had a complete inventory of the property, a detailed inventory of the property. Here it is, I recollect it now.

I am familiar with the history of this community with reference to its growth; I have gone over the tables of population and I was here for five months in 1914, and I have been here for a number of days now and have taken a great deal of interest in the general aspect of things, and know, as anyone knows. This city is one of the best instances of prosperity that I have seen; any town in the United

States

Mr. Howard: We admit that. We cannot take issue upon 3075 Are you familiar with this plant? You have made a thorough study of the plant itself?

"A. Yes, sir."

This plant is in excellent condition, a very good plant. I heard Anyone that would go over it could say that. Mr. Kelsev sav so.

From my knowledge of the facts in this case, the history of this community and the condition of the plant, I would say that this plant has been very well engineered; I would say that the plant has been well constructed, it is a beautiful plant.

From my knowledge of local conditions I would say that there will probably be an increase in the demand for telephone service in this

city, from the growth of the city, all facts would show that.

The plant is capable of earning a fair return; it has the potential

earning capacity.

I have considered all of these matters, the history of the community, the original cost and cost of reproducing the plant, etc., in arriving at what, in my opinion, would constitute the value of this property; I have a very definite idea of the present fair value of the property.

"Q. Taking into consideration the original cost and what it 3076 would cost to reproduce this property, the history of this community and prospects of the future, and the condition of the plant and all of the relevant facts, what, in your opinion in dollars and cents, is the fair present value of the plant of the Southwestern Telegraph & Telephone Company constituting the Houston exchange?"

"A. Under the hypothesis that there is to be a reasonable return?"

"Q. Yes, sir."

"A. The fair present value of the property, under the hypothesis of reasonable return, would be approximately seven and three-quarter million dollars."

A statement of value like that must be in round figures; seven million, seven hundred and fifty thousand dollars. If you take off the depreciation that I mentioned a few minutes ago off of my seven and three-quarter million dollars you would get approximately seven million, four hundred thousand dollars as the value of the property. I think that the property, the fair present value of the property is fully seven million, seven hundred and fifty thousand dollars. I don't believe that ought to be taken off, but if you do, it is that much less. Just assuming that I do deduct that, if that is properly subject to that depreciation and assuming I make that deduction, in my opinion the value of the property would be three hundred eighty-nine thousand eight hundred and eight dollars less than seven million, seven hundred and fifty thousand dollars. I will make that deduction if you wish me too; seven million, seven hundred and fifty thousand dollars less the amount assumed here for depreciation would give seven million, three sixty thousand, one hundred and

3077 ninety-two dollars, and if you make that deduction for depreciation, in my opinion, the fair present value of the property is seven million, three hundred and sixty thousand dollars; more than that

Cross-examination.

Questions by Mr. W. J. Howard:

I am a graduate of Harvard, with the degree of A. B., going to Harvard at the time when they had the lectures and took the lectures for Mechanical Engineer with the addition of a course in banking and economics, and then began the practical engineering education under my father, who was a mechanical engineer. I do not hold an engineering degree,—A. B., and you will find that it takes a year longer. You will find in the Harvard Engineering Association a great many of the boys took the A. B. instead of the other. I took the A. B. in preference to the C. E.

I think I was first employed by the Southwestern Telegraph & Telephone Company on this case about the middle of October or the first of November; I do not remember when they first spoke

to me about it. I completed this appraisal just in time to get on the train.

Mr. J. D. Frank: Took about three months.

Mr. Elias employed me; I would not at all mind detailing the conversation I had with him. He called me in there and asked me,—said he wanted me in the Houston case; he said it

3078 was a complicated case and he wanted me to make a valuation of the property. This is very nearly all he said. He was very careful not to try to lead me in any way. He has conferred with me since that time in regard to my progress on the work, he has been hurrying me. That would hardly be a conference, we have seen one another, but he didn't know anything about the progress of the figures. In fact, we don't know ourselves until we get to the end. That day is always one of great curiosity.

"Q. Then that is about all the conversation, except he communicated with you from time to time to learn the progress of your

report?"

"A. When I would want information—we had access to their Auditing Department to get any information we wanted. We could get any information we wanted from the Company by asking for it. Frequently I called him and I went to see him perhaps four

times."

I talked with other members of the organization, talked with Mr. Waters, the Auditor, about getting some of the papers. I talked with some of the counsel a day or two before I completed my appraisal. I was trying to get more time and I thought Mr. Frank was fooling me about having to be here at the particular start. They merely told me they had a confiscation case at Houston and that they wanted me to value the property for them. After our

work was completed, of course, the attorneys saw it then,—
after our work was completed. They did not make any
suggestions as to how I have handled any of the matters;

I don't think they did.

Mr. D. A. Frank: It was printed before I saw it.

They have gone over it very carefully since then; they went over the figures, I think I probably got as much grilling from them

as from you.

"Q. They told you to come and value this property and gave you carte blanche and plenary powers? They placed no restrictions upon your methods of going about it and no limitations upon the expense?"

"A. I hope not."

No limitations of any kind, just told me to go ahead. I will tell you, Mr. Howard, it isn't customary for clients who know engineering ethics to try to direct an engineer's valuation report. An engineer will resent it, that is, the proper kind of engineer. An engineer isn't an advocate, and he goes on the stand, and if he realizes the solemnity of an oath he understands he is to swear

to what he brings there and he don't like to be directed. tell us they want a reproduction, or an estimate on some different That can be done.

Engineering ethics are very nearly what legal ethics are.

"Q. You went about it, dictated by your own conscience and used your own judgment?"

3080 "A. We wanted to get the best-"

"Q. (Interrupting.) And your idea of what was the right thing to do under the circumstances?"

"A. Yes, sir."

I prepared this valuation and submitted it here as seven and three-quarter million dollars as the value of this property on which this Plaintiff should make a return; that is true

I have stated that I spent many years as the representative of the city in the valuating of public utility properties upon which the

community of St. Louis was to pay a return

I would not say that many engineers allow as low as three per cent for omissions and contingencies. It is entirely a matter of judgment. I do not recall any that have allowed it, but I would not deny that they have. I do not know that there is some difference in this case by the Plaintiff's witnesses; I do not know what the evidence is in the case.

"Q. Don't some engineers take the position that when you are inventorying an established plant and one already constructed, that the item of omissions and contingencies should be practically

eliminated; in other words, very small?"

"A. I don't recall any who take that stand, and if I did, I would think he was rather a foolish engineer, or at least on that point."

3081 "Q. Some other engineer might come along and say that an engineer that does not allow for depreciation is rather · behind the times?"

"A. No, sir, they would say he is ahead of the times. I have heard them say that."

"Q. He was leading in the great part of originality?"

"A. I don't know that they would put it that way. out the truth. For a long time the people believed the world to

be flat.'

"Q. Some time some man might come along with a great vision and find that when you have a plant constructed of switch boards and toll lines and underground conduits and poles, that he might have great enough vision to think you could go over those things and count them accurately, and if you failed, then there might be an omission in an over-count as well as in an under-count. A man might get that big a vision?"

A. I think it would be visionary."

"Q. The whole thing is visionary. You are looking at it, so it comes to the question of counting. What have you got to do but count it?" "A. We know in counting things that we very seldom get them

· all."

"Q. Sometimes you over-count, too, don't you?"

"A. Very seldom."

I would draw a distinction between inventorying a plant that is already constructed and making my preliminary estimate or setup of a plant I proposed constructing; there is a difference between these two propositions. I think you probably

tween those two propositions. I think you probably 3082 allow less, if you were cautious, you would allow less when you had the actual plant and could count it. You see, we have had experience in making a re-count, and when we make an inventory and re-count we always find something more. A very carefully checked inventory, three or four checks and one we make ourselves and go over two or three times, we might allow one figure for ommissions, and one that was checked over just one time we would allow another figure.

"Q. What omissions on a switchboard suggest themselves to

you?'

"A. You know, if I knew them I would put them in."

We might not count all of the silk. I would hardly overlook a switchboard. As to what omissions occur to me in underground conduits, we might not get the deviations, what obstacles would be encountered. That would be an omission; we cannot see them and

they are counted in as omissions.

We get our underground conduits from a map, in this case we got it from an inventory. Ordinarily they keep a map of those things; there might be a falsified map, but I never heard of such a thing and I take it as correct but there is not just as apt to be an error in over-amount as in under-amount; the map of underground stuff, like pipe and conduits, are drawn straight from point to point. We know the pipe and conduits do not run actually straight from point to point; they may encounter sewers and things of that sort that may not be on the map.

There is very great chance for omissions on a pole line. In the inventory of the Houston property, the Houston lighting 3083 property, we went out and counted those very carefully, and I think we counted seven hundred poles the Company had

I think we counted seven hundred poles the Company had omitted from its inventory. I have forgotten out of how many that was. I imagine they have a good many thousand poles. That was five years ago.

I have allowed 5% for contingencies and omissions, and have known of more than that being allowed; I think engineers allow

six.

"Q. Some allow three and some might take the position that I have—that when you have a plant constructed already, it is practically reduced to a negligible quantity."

"A. They might, but I don't know of any that have." I allow for working capital, \$125,000.00, cash capital.

I have taken into account that their bills are billed on the first in advance, and that they get it all paid before the 15th of the month, but that don't change my idea of what it ought to be in a company of this size, I based that upon six weeks' earnings; I took six weeks' earnings. You are mistaken in your statement that I said some

Commissions take six weeks' earnings,-not earnings,-operating expenses; six weeks' operating expenses or approximately \$100,-000.00 in this case. 000.00 in this case. There is really not much reason for it, but it has been taken by Commissions. That is not on utilities that get all their money after they perform the service; the same thing is allowed street railway companies. I do not mean six weeks' revenue, but six weeks' expenses. It has been allowed in street rail-3084 ways, gas companies and in lighting companies.

"Q. All of these companies get their money after they perform the service?"

"A. The street railways do get the actual cash."

"Q. Yes, that is true; I will eliminate that. I have reference to gas and lighting companies. Would you say that a street railway company should have as much working capital in proportion as a gas company?"

"A. It depends on what the street railway has to do."

"Q. This money is to carry them along so they will not run out of money and will have something to operate with; and if they get their money in advance, why would they need much working capital?"

'A. They have a great many expenses."

"Q. They get a great deal of money every day?"

"A. Yes, sir, and they pay out a great deal every day. Since you

want to get off the telephone business-"

"Q. (Interrupting.) No, sir, we will not get off the telephone business; that is somewhat parallel. They get a good part of their money in advance of performing the service. You have taken six weeks' operating expenses as the basis-

"A. (Interrupting.) I did not take that as a base. I simply found out what it was, because it is a figure that is sometimes used. I have estimated \$125,000.00 as a very small amount of actual cash capital that would be necessary to run a plant which has nearly

eight million dollars invested in it. That is one point that 3085 I think is sometimes forgotten. A telephone plant like this

is constantly growing."

"Q. It don't grow very much in six weeks."

"A. The installation of additional property. The money must be there. They must have the money ready to put in."

I have not made any deduction for the fact that they collect their

money in advance.

I get this \$82,000.00, stores and supplies, from the statement of the Company. They do not set that up as the amount of money they think they should have,—the actual amount of stores it had at a certain date. A great many of them get most of their supplies from the Western Electric Company. I imagine there is a branch of the Western Electric Company in the City of Houston; I don't know,-I have never seen it.

I said the fair present value of the property is seven and threequarter million dollars; I got it by estimating the cost of reproducing the property at this time at these prices. As to whether or not they were the only things I considered, it depends upon what you

mean by the word "considered." The value stated here coincides very closely with the cost of reproducing this property new. that is the large factor; the cost to reproduce.

"Q. Your statement is not accurate. You don't mean to say

that?

"A. What?"

"Q. That the value you have given here—seven and three-quarter million dollars-coincides with the cost of reproducing the property new. You don't mean to say that?"

"A. Did I say it?" 3086

"Q. Yes; I knew you didn't mean to say it.

"A. Approximately."

Mr. D. A. Frank: He said it did not.

"A. Approximately it coincides."

As to what I call "Approximately," I have got there seven million, eight hundred thousand dollars, and I get as the cost of reproducing this property new seven million, eight hundred eightysix thousand, one hundred eighty-two dollars and twenty cents. got that by getting my inventory and applying present prices.

"Q. You are mistaken about that. Surely if you stop to think,

you are mistaken about that."

"A. That is my idea of the way I got it."

"Q. I think you are confused."

"A. I think I am right."

"Q. Take your inventory and apply your prices and see what you to the You have done that?"

"A. Yes, sir."

"Q. What did you get?" "A. You mean to say the cost of the physical property?"

"Q. I am talking about what you said."

"A. We got the cost of the physical property."

"Q. What was it?"

"A. The reproduction cost of the physical property is \$6,092, 058.20."

"Q. That is not really correct. You mean to take sub-total sixteen

would be more accurate." 3087

"A. I don't see any sixteen." "Q. Sub-total sixteen."

"A. No, sir. Working capital and supplies could be called physical property. Supplies certainly are physical property. Working capital is-

'Q. (Interrupting.) That is an estimate?"

"A. What? Supplies?" "Q. Working capital."

"A. Yes, sir, it is an estimate."

Mr. D. A. Frank: It is an estimate of a very real thing.

"Q. So the only thing you have done, the only thing you have done is to take the inventory of this property and apply unit prices and material cost, which brings you out \$5,884,000.00, and then you add working capital, which you estimate to be \$125,000.00, and add the supplies, \$82,000.00, which makes the total physical property \$6,092,000.00. Then you add to that \$1,794,000.00, which gives \$7,888,000.00, or, in round numbers, seven and threequarter million dollars, which you tell the Court is the fair value of the property on which to have a return?"

"A. I tell him that is what I think."

"Q. You have eliminated from that everything that might bear upon this ultimate question of value, except the cost of reproduction new?"

"A. No, sir, I haven't eliminated it; I have taken it into con-

sideration."

I have given it very little effect. The fact is this, that 3088 the present value, present fair value, is more closely measured by the cost to reproduce than by any other factor; and if you will assume that a value must have an exchange, or potential exchange-value itself is relative. When measured in money it must have a measure of exchange, or potential exchange. If it could be imagined, or is imagined, that the present operators of this property are going to withdraw, or made to withdraw, and another group comes here with the choice of either putting in a new plant or buying this plant, I would say, and I would advise, if I were their engineer, to buy this property at reproduction cost rather than take the chance of building one, and that is the measure of the plant's Yes, sir, I say they are entitled to capitalize all this rise in wire and copper and poles; certainly it is of value, and if they are entitled to the present value of the plant, they are entitled to that. If this community should not patronize them and they did not use it in serving the public in delivering this service, they would not They would have nothing but a lot of junk, but it realize on it. is the assumption that they are going to be allowed to earn a reasonable return.

As to whether or not I would say that they are entitled to all the advance in materials that have gone into the plant, it is not a question of what they are entitled to. We are trying to find the present value of the property.

deliver lectures on economies at Washington University in St. Louis; it is on Skinker Road. It is quite a large institution,

with an endowment of betweeen fifteen and twenty million dollars. I was very much surprised that you didn't know it was there. Secretary Houston was the Chancellor of Wash-

ington University.

3089

"Q. You are something of an economist. Would you lay it down to your students as a safe economic proposition that if they had their money invested in a property where the market for realizing upon the property and converting it into cash is limited, and narrowly, limited, that that fact would not affect the value of their investment?"

"A. I would be very glad to explain it to you. I think you have

asked two or three questions. Put it distinctly."

"Q. Probably I asked three or four, because you did not answer the first one."

"A. You are asking me if there was a property here which was

not going to earn any return, how I would value it?"

"Q. No, sir; I am asking you here, if there is a property here that depends entirely upon only one source of receiving a return, and they undertake to take their profit upon a rise in material—they have invested certain money, a certain number of dollars in wires and poles and copper, and upon which they have been permitted to earn a return, and they now come in and say: "We are going to capitalize this rise in material, and the people of this city—

Mr. D. A. Frank: We haven't said that. Mr. Howard: That is what you are doing.

"Q. And these people of Houston say: "We will not use your utility upon those conditions." Then what becomes

of the value of this plant?"

"A. You must remember that in stating that this was the value, fair value of the property, it was distinctly stated under the hypothesis that it was to earn a reasonable return. If you assume a case of utility not being allowed to earn a reasonable return, you assume there is no justice in the Courts. And if you assume that—and you are also assuming a market value. The market value of a plant as it exists today takes into account the present earnings of the plant. Those present earnings are in question, they are to be adjudicated. They can not be taken into account in the adjudication, or we would come to the conclusion that they can not be changed, because we would arrive at a value based on their present return. The present fair value of the plant is more closely measured by the cost of reproducing it than by any other element."

I said I was employed in San Antonio to advise whether litigation should be continued there or not in regard to the installation of the \$7.50 and 3.00 telephone service. I made them a report; I

don't think I said anything about the litigation.

"Q. At the time you were representing the city of St. Louis as its valuator of public utility properties you entertained the idea that omissions and contingencies should represent 5% of the properties."

erty, of the physical property, and you entertained the idea 3091 then that no allowance should be made in the item of working capital where the utility collected the greater portion of

its money in advance?"

"A. I am not endorsing these things that you say I entertained."
"Q. You have the idea that notwithstanding the fact that Courts and Commissions have laid down the rule that original cost should be considered in determining the fair value of a property; that when reproduction value is much higher you would make that the sole test. You entertain the idea that going concerns of practically 50%

of the physical property, or 40% of the physical property, should be added to it in the way of intangibles. You entertain the idea that after a plant has been reproduced upon the reproduction theory and it was found to come to a certain amount at present day prices, that although the plant in operation was not a new plant, that it should not be depreciated. You entertain those ideas, and entertaining those views, you undertook to counsel a municipality as to the matter of adopting certain rates, did you?"

"A. Is that a question or a statement?

"Q. I asked you if, entertaining those views-; I asked you if you entertained those views at the time you made the recommendation to Sar Antonio to install this \$7.50 and \$3.00 rate?"

"A. In San Antonio?"

"Q. Yes."
"A. Yes, sir."

I told the City Council at that time that I did not believe in depreciating property; I told it in the report. I do not know whether or not they were men accustomed to analyzing reportof experts upon utility properties. Some of them were very good business men. I gave them that report, both the original cost and the reproduction cost. The case was such that if they took the original cost, it settled it so far as the law suit was concerned.

"Q. Didn't you say in your San Antonio report if original cost was to be considered in arriving at the value of public utilities

"A. (Interrupting.) No, sir, I distinctly avoided it."

"Q. Didn't you say it is often considered, and that it was one method of arriving at the cost of public utilities?"

"A. At the cost?"

"Q. At the fair value of it?"

"A. No, sir, not the fair present value of the plant, and I have used all through that report a term to distinguish it from value. It isn't value at all, it is merely the cost, and I say in this report— Now, in many years my views may have changed and I have learned something, and at that time I had the same views that I have now."

And my view hasn't changed since then. I will show you that I haven't. I say here in speaking of reproduction cost that the theory of cost to reproduce a property at any certain date is one much used in working out estimates of capital entitled to return. Sometimes mistakenly called fair value. I am speaking of reproduction.

"Q. Why do you say it is mistakenly termed fair value, when you say in this case that reproduction new, without any de-

preciation, plus a lot of contingencies and omissions-"

"A. (Interrupting.) I will read it over: "Capital entitled to return, as used by the Commissions, is not fair value." And I have to explain to you that the Commissions over the country have very often gotten away from the idea of value. They have taken what they called capital entitled to return, or they have even taken-"

"Q. (Interrupting.) On the first page of your report don't you recognize and state that reproduction is one of the methods and receives the sanction of the Commissions, although you don't think

it does in the Courts?"

"A. In estimating the cost of reproduction—this is from the San Antonio report-in estimating our cost of reproduction we have not used actual present day prices___"

"Q. (Interrupting.) Will you tell us where you have placed any fair value upon this property?"

"A. I do not. I say that the reproduction cost is the best measure of fair present value. It couldn't be measured in present value un-

less you used present cost."

"Q. They have shown here that you, as the city representative, have recommended and approved these rates in another city. Upon any of these contingencies that have come up between the city and the utility, where the city contended for original cost, where the city contended for but a small going concern value or cost of

3094 establishing business, where the utility contended for a large going concern value and cost of establishing business, and where the utility contended for 4½% for American Telegraph and Telephone Company service and the municipality has opposed it,—what was your idea in valuing the property? Did you coincide with the contention taken by the municipality in these matters?

"A. Of course, that would not be my object,—to coincide. My object is to do what is right. I want to do what is the right thing to do, but since you mention it, there are other places where they coincided. I was on the Board appointed by the Aldermen of the city of Buffalo to make a valuation of the street railway property there. I was the representative of the company, appointed by the

The representative ap-

pointed by the city was Professor Richey, and we coincided and we came out with practically the same set-up as I have here."

company on that Board of Arbitration

On the Board of Arbitration, I was appointed by the company and Professor Richey was appointed by the city. Our set-up of the valuation of the railway was practically what we have here. In making the valuation for the city of St. Louis of the United Railways in 1918, the set-up was practically what it is here. That was in 1918. The Buffalo matter was not before the beginning of the war, it was only a year ago.

"Q. Mr. Allison, as a representative of the city and inquiring about these rates in the city of San Antonio, you never advised the city, or never suggested that it was not fair to have rates based upon price levels where there had been an abrupt rise due to

a specific cause?"

"A. If I suggested it was not fair to take the present fair value of the property, and that would be the reproduction cost, I would have been going against what the United States Supreme Court said."

The United States Supreme Court has said that we must get the present fair value of the property. That is one expression used, and another one is that the value must be taken as of the time of inquiry; that is another expression which means the same thing. Another one, that the value must be taken as of the time of use; those are the leading cases.

"Q. Didn't the Court say anything about it being confined to the property used and useful, and that the public is not to pay more than

the service is reasonably worth?"

"A. I expect they have said that."

I do not think that present day prices are abnormal as compared

There has simply been a change in the price level, and the word "abnormal" does not apply.

In the San Antonio case I may have adopted in toto the operating expenses and report of Mr. Baker and Mr. Pennell; I do not recollect. Q. I notice you refer constantly to Baker and Pennell, and appear to adopt them."

"A. I probably would."

"Q. I don't notice anything in the report where you suggest any issue with any claim made by the Company."

Mr. D. A. Frank: Are you contending he should take issue with

the company in representing the city, and climinate some item?

Mr. Howard: As long as you ask the question, I am in no way questioning Mr. Allison's honesty or his integrity; I am simply making this statement,-that when you come here and produce him as a witness, trying to give it emphasis, probative force by reason of the fact that he was employed by the city and recommended a rate to be installed in a city of this State, that I want to show what his views are.

Mr. D. A. Frank: That he should disagree with the city,

Mr. Howard: No, sir; my idea is that he is looking at the thing through the eyes of the utility. His environment is such that he looks at all these problems from the standpoint of the utility. his environment and associations are much-

Mr. D. A. Frank: Ideas he got while representing the city of St.

Louis and the Public Service Commissions.

Mr. Howard: I am showing his state of mind is such that he has practically approved every proposition that has ever been put forth by the Bell System.

Mr. D. A. Frank: If you can prove that by him, go ahead,

There is a proposition that the American Telephone and Telegraph Company has put forth that I have taken issue with; I take issue with them, but - is not always on account of trying to 3097 get lower figures; it is because I think certain things are

right and certain things are wrong. Let me tell you something: As the Commissioner in St. Louis I started out with this popular idea and ignorant idea that the public utility corporations are all full of all kinds of tricks, and I was on my guard for everything; but I found that they were not, after four years of dealing with them. They gave me facts. I didn't take them for granted, but they did not misrepresent. Even our street railway, which had a very bad reputation, there was no misrepresentation by them in the facts that they presented to us. They knew we were going to the bottom of them, but the facts were, in this four years of dealing with these people, I found they did not go to those little tricks of When they told us anything-I didn't always misrepresenting. agree with them—when they claimed anything, they had some reason behind it. They put up much higher claims in some cases than we allowed them; nevertheless, there was something behind them. I am not in the position of thinking that everything that is put up by a company is a lie, and I do not believe it. You are

not to understand that I have undergone a change in belief; I have simply gotten information. I had an ignorant idea in the begin-I have not been converted to the idea that everything they contend for is all right; I don't think that is necessarily true.

"Q. Inasmuch as you brought in this San Antonio rate-

"Mr. D. A. Frank: He did not, you brought it in yourself."

I understand that San Antonio is about the same size city 3098 as this.

"Q. In recommending that \$7.50 rate you considered that they were entitled to about One and Three-quarter Million going concern value over there upon which the people should pay a return?"

"A. Entitled to what is set up in the report, which is about the same percentage of the physical property as it is here."

This cost of establishing business is a fact. Now, there are two things; there is an amount that has been spent in establishing business. ness. That is the original cost. Now then, to get the present value you would have to get what would have to be spent today to establish the same business, and they are two different figures entirely. We have a cost of establishing business of \$877,000.00 based on

physical property of \$3,353,000.00. That is reproduction.

I did not figure the value of the San Antonio plant on 1918 values; 1916-1917 prices. We figured it there on 1916 and 1917 prices and come in here and figure it on 1919, because we did not know what the prices were at that time. Factories were full of war work and it was a time of excitement, and we did not know whether the prices were temporary or not. Since then, there are no indica-tions of lowering prices and every indication is that they will stand where they are or go higher, which makes a different proposition out of it. I consider that we are at peace; we are not in war.

I did not say that I was a political economist; I say I am a student of economics,-a teacher of economics. All teachers are students, they should be; they are not all students, but they should be,-you never get it all. As a professor of economics

I have kept in touch with the current opinions and expressions of public men.

"Q. Have you ever heard it urged that the present high cost of living was due largely to the fact that we haven't settled conditions on account of peace not having been arranged?"

"A. I think it is the veriest newspaper rot. We have peace."

The facts are, we have peace and are going ahead and doing the same work as if it was signed. There will not be any change at all when they sign that treaty. We are already shipping goods into Germany. I was talking to a man the other day that had been over there to sell to them.

In so far as telephone supplies are concerned there was a marked change in the prices in some of the things the first of December.

This work was done as of December.

"Q. Do you think there has been any change taken place at all

in the world in regard to prices and in regard to commerce—you think our stories are taken as freely in Europe now as three months ago?"

"A. I don't know about that. Europe's ability to pay-"

Cotton is a staple. Cotton exports are not being received rapidly in Europe; we are just beginning to find out they cannot pay for them. I think cotton is declining and I think it probably will decline. I don't know that it is declining, but I think so. If

3100 you say it is I will accept it. I haven't any recent information about trade in the East now in regard to how it was six

months ago.

"Q. Have you talked with any merchants that buy in the East who say there is a change in conditions, the change is very marked, in that they are sending out their representatives and soliciting trade and urging large order, whereas, six months ago they were indifferent and would not fill their orders?"

"A. It would depend upon what line you go into. If you are

talking about dry goods, I know nothing about it."

I know nothing about dry goods and shoes. I know the steel mills are very far behind in their orders, and all the construction materials are far behind. Construction is very expensive now, and there is a great need of construction, and those prices are going to keep up a long time. I would not say that there was a shortage of buildings prior to the beginning of the war; at least in St. Louis we could get office room very readily, and houses were for rent, not excessively so, but could get them, and apartments,-you could get them, a lot of apartments for rent, and now you cannot get them You might say it was somewhat overbuilt just prior to the war, even up as late as 1917 and then for about a year or a year and a half building stopped and there was a cessation of building activities; it seems that that all over the country has created a demand for houses and buildings of all kinds. It will not be caught up with within a year and a half, that is, as soon as this year and a half's shortage has been caught up with. It will take longer than that; people are not going to build so freely. We have all

that; people are not going to build so freely. We have all got to go up so we can show the man a profit in going in;

there has to be a general readjustment.

"Q. In other words, these high prices retard building because people are hoping prices will come down?"

"A. I think they are afraid they are going to come down."

Based upon that proposition if we were without a telephone plant here now I do not think capital would be eager to come in and build a telephone plant such as I imagine here on present prices and take the chance unless they were assured of a fair and reasonable return upon what it would cost them to reproduce it; they would want it practically assured upon these prices.

"Q. If you have a plant that is built here that you have valuated at present prices and added certain things to, and say that is the fair value. You say that it is not the value unless they are

3102 permitted to earn a return?

A. The fair value. The market value would have to be provided for by a fair return on the fair value."

Assuming that these people are entitled to earn a return upon the fair value, then the next question we have got to determine is what the fair value is. We set this property up, take the inventory and apply unit prices and material cost and get a certain figure and say that it is the fair value. If the fact that no other company will come in here and take chances of building a plant like this unless they were guaranteed a return upon the cost of reproduction, to my mind, it would not indicate that the present value of this plant is not as much as it would appear from the application of these material prices and unit costs; the situation would then be that we have here the present fair value, and the tribunals are not going to allow us a reasonable return. We do not assume that,-we assume we will get justice.

Under the injustice or unreasonableness of confiscatory rates which you assume, the market value of the property would not be the fair

value of the property.

"Q. Assuming that you have got a plant that could be sold to others, but the fact is that the prices have increased until they have got up to an abnormal level-

"Q. (Interrupting.) I do not admit that."

I do not admit that, not compared with what the level will be. It is a higher level than it was before. Abnormal is a sudden

bulge.

I have not stated that a man would hardly come into this 3103 community and buy a plant of this kind and take his chances upon these prices remaining at this level. If we establish the fair present value, and he assumes he is going to get a reasonable return, he will come in. If he assumes he will only get a confiscatory return, he will not come in. Assuming he will come in here and there will be established a fair return so long as these prices continue; but if these prices drop down, there would be a readjustment lower of his rate an investor would come in and take a chance at this time, because the reasonable return will take into account the risk. He may think the prices are going higher. He will take the risk one way or the other. That must be taken into considera-The reasonable return must be enough to induce him to do it. My idea is you should fix the return now that would justify him in taking a risk of having the prices drop; he may think they are going up. I do not want to have these prices permanently guaranteed, or a return upon these prices fixed permanently; there are not The measure of fair return is what we think the investor would go in for. That is very simple. The measure of fair return is what the investor would put his money in for.

I am asking you whether any prudent man would come and put eight million dollars in a telephone plant of this kind in this city with the facts staring him in the face that these are highest prices ever known and there is liable to be a drop in these prices,

whereby his rate would be lowered and his return then would be limited to six million or five million instead of eight million.'

"A. The business man takes those chances all the time. investor knew he was assured of permission to earn a reasonable return, that is the return that would induce him to go in. In fixing the return that would induce him to go in, he would take into account the risk of the property going down."

That does not amount to the same thing as guaranteeing him a return upon the property.

"Q. Mr. Allison, you have reproduced here a very pretty new telephone system. What is the purpose in doing that, Mr. Allison?"

"A. Well, it is not a reproduction of a new telephone system. It is a reproduction of the telephone system now in existence."

The idea is that we are going to reproduce that,—reproduce it new. It is an estimate of reproduction to get the fair present value of it, estimate of what it would cost to reproduce its property; to go and build a new plant, that is what my reproducing would be, to go and build a new plant. We are taking a simple estimate of reproducing the physical plant and business in order to make its fair present value. We are simply making an estimate of what it would cost to reproduce it in order to measure the fair present value. Although that plant, when we get it reconstructed going on that basis would be new and this one is not new, in my opinion, it would be the same value. I stated that is rather the test of a man coming in and

3.05 building the plant new and undertaking the Telephone business, and seeking a return upon that price new, that he would do it if he got enough to guarantee him or justify him in taking the risk. In other words, what I mean is that if the return was such that would induce him to come in. I do not mean it should be something over a fair return on the then values; the fair return is the return that will induce him to come in, that will induce general money to come in. If it is not that much he would not come in.

"Q. You then consider a fair return on the existing plant as one that would pay such a return as would induce an investor to construct such a plant at the highest prices possible known in history?"

"A. Well, I say, we mentioned first the present fair value of this

plant. We measured that my reproducing the plant.

Now then, having determined the fair present value of the plant, a reasonable return is that return which would induce somebody to do it. As to whether you may get a fair return in dollars, or in rates of return, you would get from that principle, you might calculate down to dollars in rates. I do not know what figure would be a fair rate of return in this plant; it would be whatever would induce the capital to take it. I remember in my set-up I gave a capitalization for the initial risk so that the fair return would be a return after saying to the man you can earn on 15% more than you put in. My idea in putting in that 15% is that would induce the man to come in and start a new telephone business and he would have a reasonable return on this. That is not an imaginary case because it is done. It is the principle.

"Q. It is imaginary in so far as inducing somebody to come into this territory and put in seven or eight million dollars, but you say this risk would induce him to come in even at these highest prices known in history?"

"A. I calculated it that way."

I say now we will take that 15% and add it to the value of this plant as it is, already in business, and give them a return upon that 15%, because we are trying to estimate the present fair value of this property, and in order to estimate it we have to estimate it at what it would cost to reproduce it in order to get the money.

"Q. So then in addition to permitting them to add to their values the increased price of material and labor over what it would cost them, you have got them up to quite a big figure there, a couple of million, two or three million, but now you say that having been done and these figures having been brought up to these high prices, now inasmuch as any investor that might be induced to come in here to operate the plant would have to have 15% for initial risk, why we will add another 15% to these already appreciated prices in order that we may get a fair return on the property?"

"A. Why, we are measuring the value that is there, the money is already there, and we are measuring the value that is there, on

3107 how much it would cost to reproduce it."

We are giving them the price that it would cost to produce it to-day. It is more than what it did cost, but it is the measure of the present value. I do not know whether you could call it appreciation over the cost or not; it is higher than the original cost, if that is what you want. Appreciation is the converse or opposite of depreciation.

"Q. So your theory would be this: you are trying to gauge these people's rights by what some imaginary person might come in here and do, and if he would come in here now to build a plant and operate it he would have to pay these high prices, the highest known in history. Then you say he wouldn't do that unless he has got inducement to do it. Therefore, we will add 15% to induce him to come in here and go in the telephone business, and there being no such person as this one we imagined, we swing back to the concrete and say here are some people that have invested \$3,000,000.00 in the business—

Mr. D. A. Frank (interrupting): Where do you get your \$3,000,-000,00, Mr. Howard?

Mr. Howard: Oh, we get it from the evidence.

Mr. D. A. Frank: \$4,600,000.00 is the only evidence in the record on cost.

*3,000,000.00, it so happens that owing to a war these prices have gone up so that it would cost \$6,000,000.00 now to put this same material and labor in a plant, and while they should have a return on that, now after fixing this rate we haven't

hardly got enough yet, because some other man wouldn't take their place on these prices, and we would have to put an additional 15% to induce him to do it, we will just give him that 15% and bring it

up from three to right?"

"A. It is not a question of giving these people anything. I say, it is not a question of dealing with per cent at all. It is a question of finding out the measure of value of this present property, and that is what we are trying to do, and what somebody may have made out of it or lost out of it has nothing to do with the present measure of the property."

"Q. But we will get the value so long as we keep in poles and wires and switchboard, and we have sprung that value from \$3,000,-000.00 up to \$6,000,000.00, and we say that is the cost of building it, that is the physical property, and I want to know why you add

that to the record?"

"A. I think I can answer your question by saying what has been paid for the property hasn't anything to do with its present value. The fact that somebody may have come in here at a bankrupt sale or something and bought this property at almost nothing-

Mr. D. A. Frank (interrupting): It may have been given to them.

"A. (Continued.) It may have been given to them; in fact, that question has already been passed on."

The question is not what has been paid for it; the question is its fair present value. Its reasonable present value is not measured by past cost; it is measured by present cost.

"Q. You have got, without the trimmings, you have got up to nearly \$6,000,000.00. Then what I want to know is after you have said these prices have gone into it, whereby they have made a fine investment here and have been lucky, in having their properties appreciated, whereby you get it up to \$6,000,000.00 through this appreciation, that has come to them in this community. Now, I am asking you where you get that other nearly \$2,000,000.00 or \$1,800,-000.00 to tack on?"

"Why, our measure of the value of this property is not necessarily a cost of reproducing merely the physical property. It is the measure of reproducing the property as a Going Concern."

The \$1,790,000.00 that I have added on here is an estimate of the cost over and above the construction cost to create the property as it That is to get the money and to protect the business. on account of high prices, the present prices and cost of all these things, is the only thing you can use in getting at the present value. Now, if you want to know what the value was at the time these things were paid in, that is not present value and that may go back four or five years. The present value is based on the present cost. they have lost or made has nothing to do with its present value.

We are looking at the thing at the present time. What they 3110 have done so far as creating this property or business has nothing to do with its present value. That is a question, the man in the street might say that they are making too much money; that hasn't anything to do with the present value. Cost of business

on going concern value is certainly a fact; it is a cost. I have stated

that cost of establishing business is a fact.

Over in San Antonio is a telephone business, was in 1918, and they had certain physical properties there. They had what I call a Going Concern or Cost of Establishing Business.

Why, if that is an item of "Q. And that was an item of value. value inherent in that property, do you set up in one way \$250,-000.00 and in another \$800,000.00?"

"A. You mean over there?"
"Q. Yes, sir."
"A. The first estimate on original cost was the estimate of what it actually cost to establish that business, what it actually did cost. The second estimate is what it would cost to reproduce it, and that was the estimate at that time, the value at that time. The other had nothing to do with value. It was merely a statement of how much it did cost.'

"Q. It is a specific fact that where you have a definite rule of knowing what a thing cost, yet you will take the reproduction theory to arrive at some sort of an estimate with regard to

what that particular thing-

"A. (Interrupting.) Would cost today?"

"Q. (Continuing:) Would cost?"

"A. Just as if I had an office building here that cost me \$100,-000,00, and it was worth \$200,000.00, I would try to get my rent on \$200,000,00, and I would say that my building is not worth today \$100,000.00, but \$200,000.00. That is the measure of its present value. It may have been worth \$100,000.00 ten years ago, or whenever I built it, but today it is worth \$200,000.00."

This Going Concern value is an estimate of what it would actually cost to get that property as a going concern today. It is an estimate of an actual cost today and that we think is a very close estimate of

actual value.

As to whether or not I think actual cost today, where telephone service is in demand, and where people are highly educated in the use of telephone, and in a thickly settled community, would be higher than it would be in the early days as these plants have progressed, I will say the cost of attaching business, we have taken that into account and used only \$2.00 instead of \$4.00 on account of that education of the community, but when we do that even, we are taking a part of the value created by these people. However, we do take it as an estimate as what it would cost with the present education of the people in the use of telephone. Otherwise, it would have taken \$4.00.

"Q. Now, for the enlight-ment of the City Council over in San Antonio, you set up the cost value and told them one figure would be the cost of establishing a business, \$250,-000.00; then you set up another figure and told them that

the cost of establishing business would be \$800,000.00?"

"A. I clearly stated to them this is what we estimate it already This is what we estimate it will cost today, at the dates we took. One is an estimate of what it did cost. The other is an estimate of the present value."

This \$1,700,794.00 is what we think it would cost today to just go ahead and build a new plant, and we think it is a minimum

estimate if you examine the percentages in there.

We did not group items 1, 3 and 5 on page 6 because we wanted to show as clearly as we could our reason for putting them in there. It is an analysis. We have got the cost of promotion. Initial risk does not come right along about the time the thing is promoted; when they go to get the money; that is when the promoter is an active gentleman.

"Q. That is when he is trying to get the money?"

Mr. D. A. Frank (interrupting): He is not the one that is taking the risk?

Mr. Howard: Oh, no, but it is all right in these hard times.

"Q. Now, we have got the promoter. Then we have got the cost of assembling the capital. I thought he was the boy."

3113 "A. Well, I am sorry Mr. Howard that you don't understand. The promoters don't assemble capital. They get investment bankers to do it."

Promoters don't assemble capital. The name of that gentleman that assembles capital generally he is called an investment banker. An investment banker and broker are the same thing. A broker is not always an investment banker, but an investment banker can be called a broker. He don't like to be called a broker, however. I have not separated these things out of deference to the tastes of the bankers, they come in classes of expense. I did not just put those two things in at one fell swoop because it would not be explanatory.

I divided the other things into cost of supplies and cost of buildings, and here are two different costs. One is the cost estimated to go to the promoter; the other is the cost estimated to go to the investor for taking the risk. The other is the cost estimated to go to the investment banker for assembling the money; it is a very good reason to divide them. I think perhaps I have underestimated the

lawyer.

"Q. Well, let's get away from this imaginary stuff if you don't mind, and let's turn back and see if we can find something about the troubles of this struggling company through the days of its travail and sorrow."

"A. I have nothing to do with that."

I am here to help the court put a fair value upon this 3114 property. It is this property, duplicate of this property.

"Q. Well, now, you first construct a new property, and you talk about all the trouble they are going to have reconstructing it, and you tack on in the aggregate something over \$2,000,000.00, and then you turn back to this property and give it to them new without any depreciation, and say that because this fellow that is coming

down here and going to build this imaginary plant and have to incur all these costs, why you gentlemen have got something that he has, and he has got to pay these things to get them, that is about the process of your reasoning, isn't it?"

"A. That is about the idea."

"Q. All right now. We have gotten back to these people, and if any of this cost of attaching this business and going concern have been paid by the people of this community, would you still say they have got a right to tack on this \$2,000,000.00?"

"A. That has nothing to do with my figures."

"Q. Yes, it does. You can understand now your idea in the abstract of political economy and these fine differentiations that you may make are things in their place, but we want to get the facts and keep in mind, please, that this is not an abstract question, but a concrete question, which is—or incidental to the ultimate conclusion anyhow is the determination of value?"

"A. Of present value."

"Q. Of the property that is here, not an imaginary property, not the one that you have built, and the one that you are theorizing about, or one that you could lecture about, but the one

that is here and is operating, and that we want to get the value Now let's get it. Do you tell me that you have gone ahead just as you have told me you had and reconstructed this plant just as if some new person was coming in here, and these people have something that he wants and hasn't got, then he would have to, if he gets it, put himself in their place, that he would have to pay these prices because those are the prices now, although they were fortunate enough to have bought the material some years ago and that you all applied those prices for that reason, that while their plant is old that for some reason or other we are still entitled to use it as new and we will admit all that. Then you say that because they have got a going business here, a concern that is going and is ready to work and earn money right now and he wants that, he would have to pay what it would cost him to get it because these people have got it and he has not. Now then, finally we are just using him by way of illustration, to illustrate the point, because this thing doesn't exist and there is no such investor, but we turn from this imaginary investor and try to put this plant in its place, and say that is the measure of what they are entitled to, is what somebody, some stranger, would have to pay if he wanted to carry on this plant,

that is true, isn't it?"

"A. If I came in to buy a patent medicine business, and I was asked how much I would pay for it, I would calculate how much it would cost me now to establish that business, and that would be

the measure of what I would pay for it."
"Q. Yes, you have told me that."

"A. And if I was going to buy a haberdashery, or hat store here in town, the measure that I would pay for it would

be the present cost of establishing that business, or if I were going to buy a utility, the measure of what I would pay for it would be what it would cost me to reduplicate it." "Q. Oh, now-

"A. (Interrupting.) Now, I wouldn't care what that man paid for his advertising-

"Q. (Interrupting.) I know that. You don't answer my ques-

tion

"A. Will you let me finish?"

"Q. I would, but there is this suggestion that I would make that cames probably within my rights. When I ask you a question I an entitled to have an answer somewhat responsive. If you will keep that in mind I will be glad to listen to you."

"A. I am trying to do it, but you are probably trying to get me to

say that what it probably did cost-

"Q. (Interrupting.) I didn't ask you that. I asked you just the opposite. I asked you if you didn't take this theory, that because these people have the plant here now operating and going, if some stranger came in here and wanted to operate just such a plant as this, and either had put up one or bought this one, that if he bought this one, first he would have to pay you the inventory at the present prices, that is true, isn't it?"

"A. Yes."

"Q. Because they have got it and he wants it. In the next place they would have to pay him this \$2,000,000.00 for establishing the business because it is a forced proposition. He couldn't do any better, it would cost him that \$2,000,000.00 to establish the business. That is clear, isn't it?"

"A. Exactly."

"Q. Just the reverse of what you thought I had in mind?"
"A. Well—

"Q. (Interrupting.) Now right there. I am asking you to get away from this imaginary man that wants to start this plant, and come back to the present owners of the plant who have all these things; they have the inventory of the property here, and they have all these prices, and they have got a going concern, and got everything that you say is valuable. Now I am asking you, in trying to get at this practical solution of this question from a rate making standpoint, if the community that this utility is serving as distinguished from the new man that would have to come in and start, have collected from this community the cost of establishing that business, whether you would still say that it should be added to the physical property?"

"A. Well, have they collected from this community the cost-"Q. (Interrupting.) Well, I am asking you now if they have. You are experienced and scholarly enough to know that you can base conclusions and base answers on assumptions. Now if they have would you still say this should be added to the physical prop-

erty."

"A. I certainly would. What they have done has nothing to do

with the question of present value."

"Q. If that is your opinion, I will dismiss you right now. I was intending to go over with you and point out to you the facts that

nearly all of these things of making this business has been paid out of operation and paid by the community from the earnings of this plant, that they had been permitted to earn

it and get this business.

"A. Let me answer that. If this community had given these people all of this property and it belonged to them, and we were trying to get at its present value, that fact that they had given it to them would have nothing to do with its present value."

"Q. I have no doubt that you are honest in your views."

"A. That is plain on the surface of it. We are trying to find the present value of this property. If the community had given it to these people—

"Q. (Interrupting.) I have no doubt about your views and about

your honesty in your views, but to my mind that is absurd."

"A. I want to reiterate that if the community had given them this property that wouldn't affect its present value."

Mr. Howard: I have finished. It is no use of me going over this matter with you.

This case is my first employment by the Bell System. I would like to add to my last answer there that if the community itself owned this property, its present value would be measured approximately by the cost of reporducing it. Who owns it has nothing to do with its value. The ownership has nothing to do with it; it is a question of value.

Redirect examination.

3119 Questions by Mr. J. D. Frank:

"Q. Mr. Allison, if a man came to Houston for the purpose of purchasing this exchange, would it be reasonable for him to demand, that you discount the value of the property because a part, or say, all of the cost of establishing a business had been paid out of operating revenue."

"A. I wouldn't care where it was paid, neither would you. Here you have got a property and it has a value, and that is what he would pay on. The source from which you get your capital would

not interest the buyer."

The question is as to what was the value of the property, the present value of the property, the present fair value of the property.

"Q. And what you have done is to estimate the cost of reproducing the business of this company here in Houston which is the same as you have estimated, the cost of reproducing the poles, the wires, the switchboard, and the other physical parts of the company?"

"A. It is assuming the same kind of a proposition."

I made investigation about the cost of this property and did not find it to be \$3,000,000.00. I found it to be \$4,300,000.00 without counting the accounts to be amortized which were paid by this plant that has recently been consolidated, the Houston Home Telephone

There is an account to be amortized there that would add something like \$750,000.00 to that, which would make the actual cost estimate of the property right close to \$5,900,-

As to whether or not I have added 50% of the physical part of this plant for going value as counsel on several different occasions made the statement, I think it is the relationship between \$1,700,-000.00 and \$6,000,000.00; it is about 29%.

It is not a fact that I have considered in arriving at what in my opinion constitutes the value of this property only the cost of re-

producing it; I have considered the other things too.

The qualifications, experience, etc., of the witness, H. P. Topping, are set out herein at pages 973-978 inclusive.

Mr. H. P. Topping, a witness for the plaintiff, was sworn and testified as follows:

Direct examination.

(Questions by Mr. J. D. Frank:)

I have not made an inventory of the properties constituting the Houston Telephone Plant but I have made an appraisal of the property. I got the quantities of property from the Telephone Company, that was furnished me by the Telephone Company. I took a copy of Mr. Hoag's inventory, the inventory which he made in connection with this case.

This book you hand me is Plaintiff's Exhibit No. 13, F. M. Hoag, witness, Southwestern Telegraph & Telephone Company, Houston Exchange, inventory. That is the inventory which I used in making the appraisal of this property. I could not say whether that in-

ventory is correct or not, because I did not attempt to verify 3122 any part of it, but just assumed the inventory correctly listed

the property constituting this exchange, and using that as a basis made an appraisal of the property. I went about it in the same manner that I would have assumed if a client had come into my office and told me he desired to purchase the property and wanted to know the value of that property, or what it would cost to

reproduce that identical property.

To be a little more specific: I determined the labor cost by discussing the labor situation with one or two employers of labor in Houston, to determine the wage scale and other conditions. is, I made a study of local labor conditions in the City of Houston. I was going to reproduce this property and I wanted to familiarize myself with conditions in Houston. That is very essential. I talked with the General Manager of the Houston Light & Power Company, and with the operating officials of the Telephone Company, discussing the wages, the present scale, the possible future of labor conditions, possibility of increases and amount of available help. I found that it occurs very differently that there are other industries who pay

more money than the local institutions can afford to pay, and that the labor situation in Houston is one of the elements which is a very important factor in determining the cost. In building up my unit costs here, I have used present day labor prices and from

all the information I can gather, from my study of the situation, I do not anticipate any reduction in the present scale of wages. I am familiar with labor conditions generally throughout the United States, and I think my answer would be applicable to the labor situation as a whole, that is, generally throughout the United States as well as in Houston. I cannot see any reason, with the present coal situation, railroad situation, steel workers, where there is any opportunity for reduction in wages. I have not heard or known of any reduction in wages recently. I have been engaged in telephone and valuation work for about twenty-two years and during that length of time I have not known of any general reduction in the salaries of labor, but I do know that labor has been gradually going up.

I have stated that I do not expect any reduction in the wage schedules in the future and I based that upon,—take telephone supplies, for example: Labor amounts to approximately 65 to 70% of the finished product in place in the plant. I am speaking of the cost of producing material, that labor is one of the biggest factors in the cost of manufactured material. As labor conditions seem to be on an upward trend, I don't see how you can expect any reduction in prices

in the immediate future. I am speaking now of material 3124 costs. I have used present days costs in making my appraisal

in this plant. In order to reproduce this plant, it would have to be reproduced in the future; it could not be reproduced in the past. I have assumed that I would make contracts with the supplyers for the quantities of material that are in this plant, for deliveries as they could manufacture them. I have not attempted to, or made no allowance for the probable increase in prices over this construction period. In determining the method of procedure in a reproduction case, the first thing that I have done was to determine my economical period of construction and I have determined that it would take three construction years to reconstruct this property. That would be the most economical period. You cannot reproduce it in a year, because you would have to import men-you couldn't assemble enough men to do the work, you would probably have to pay a premium in wages, pay overtime, and you could not get your equipment from the suppliers, and the increased cost would be prohibitive. You wouldn't want to extend the construction over too long a period, because you would have the loss in revenue, and after studying the matter very careful. I concluded that the most economical period would be three years. You would have to purchase your land, you would have to prepare your plans and specifications for your buildings, and after your buildings were erected you would have to install your central office equipment. During the time that you were building your

buildings and installing your equipment, I figure that you 3125 could arrange for and complete the construction work of the

distributing system, or the outside plant.

In order to reproduce a property of this magnitude, it was necessary to make a very careful study. You would have to organize your forces and lay out the work in order to produce it in the most economical and efficient manner. I have prepared an exhibit on that, if you care to see it at this time.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 29.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 29, and said Plaintiff's Exhibit No. 29 is transmitted herewith in exhibit file.)

You will notice down in the left-hand corner there is a heading "productive men." That would represent the men that do the productive labor in placing the physical property. Those men are not qualified to go out and do this work without more trained and more efficient assistance. It would be necessary to place a gang foreman in charge of a certain number of men. A gang foreman can efficiently supervise seven or eight men and it is his duty to see that they produce in the most economical and efficient manner. In a plant of this size, with the number of men that would be required, it

3126 would be necessary to have a supervising foreman, a man who would have charge of a certain number of these gang foremen. In addition to that you would have to have time-keepers, store-keepers, and you would have to have a plant accountant, general supervisors, purchasing agent, office space for these men. You would have to have warehouses and storage yards, and on this chart I have attempted to indicate how I would divide this expense up. Under this item "A," or under the heading "A" appears the material expense. Under the heading "B" is direct labor and under the heading "C" is the indirect labor and tool expense. Attached to the chart I have indicated about how this organization would work out. I have estimated that it would require about 250 men to reconstruct this plant during the reconstruction period of three years. I would not have all of those men employed throughout the construction period, but I would start off with a certain number of them. I would start first by building my pole and underground conduit plant. I would start that work simultaneously, digging the holes, hauling the poles and placing them, and in the first quarter I would put on about 120 men to start with, and then each quarter as the work progressed I would put on additional men. For instance, I would allow the pole plant to progress about six months and then start to stringing aerial cables. After the underground plant had progressed about the same time I would start to placing underground cables, and in about three months

I would start the splicing crews to work splicing the aerial cables and underground cables and as a peak I would have about 250 men at work, during the main part of the construction. Those men would be gradually cut off as the work was completed, until — the end I wouldn't have any men, I would lay them all off. I did not make the estimate as to the number of men I would have to have in reconstructing this plant for the purpose of building

up material costs, that was for the purpose of satisfying myself about the economical construction period. If I had too many men they would be in each other's way, couldn't do the work efficiently, and if

you didn't have enough, the work would drag.

I have made a study of the past history of material prices and the present material costs, and considered what would happen in the future with reference to material prices. I tried to make a very careful study of material prices and went into considerable detail. my best judgment that prices are more apt to increase than they are to remain where they are to-day. I base that upon the fact that I am furnished a price list by various supplyers from time to time, and I have in mind right at this instant prices furnished in August, a price list received August 26th, 1919, and there were a number of increases in various classes of material and apparatus at that time, even over that period.

The Armistice has been signed a little over a year and prices of various material has been going up since that time. are a number of reasons why I do not expect any reduction in

3128 the price of material in the future. As long as labor conditions remain as they are, and the high labor scales are in force—labor represents approximately 65 or 70% of the value of material in a plant—you cannot hope to reduce the material values very materially. In other words, I mean that on the various articles of material that enter into a plant, the cost of those articles, I would say, are divided up about 65 to 70% labor and 30 to 35% material. Therefore, that is one of the things which leads me to believe that the prices of material will not go down. That is on account of the high wage schedules which are being paid at the present time, and, another thing is Another reason is increased freight rates. Another would be higher taxes. This war will have to be paid for, and manufacturers will certainly add their pro rata share to the cost of their The question of supply and demand within the next few wears will be one of the very real problems. For example, during the war period a great many of the utilities, telegraph and telephone companies and electric light companies have postponed all of the construction work they possibly could postpone, they only purchased such construction material as they really needed to maintain their plants, and to keep them up in condition, and as the result there will be a very large demand within the next few years—for the next few years for all kinds of construction material. That, I think, will have a very large influence in regulating the prices. And the item

of gold supply, that has been increased. In my opinion the 3129 war has not been responsible for all of the increase in the price of material in the last few years. There have been certain classes of material that have been advancing even before the war. practically to all of the material which enters into a Telephone plant, the items that run into money fast. In other words, there has been a gradual upward increase in the prices of these materials even before

the war. I have prepared an exhibit on poles. I wanted to determine what has happened in the past ten years with reference to the price of

poles, and I would like to offer that as an exhibit.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 30.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 30 and said Plaintiff's exhibit No. 30 is transmitted herewith in exhibit file.)

I have attempted to indicate on that first page the price of the poles at the woods from 1910 to October 1919. You will observe that in 1910 a 25 foot C Pole cost at the woods, \$1.50. It increased up to 1911, 1912, 1913 and 1914. In 1915 it remained the same,

and there was a little rise in 1916, and from 1916 to 1919 there was quite an abrupt rise, and then a slight rise during 3130

the nine months of 1919. The prices of material are still The price in 1919 was about \$3.60, \$3.55 or \$3.60 as compared to \$1.50 in 1910. Prior to that time there were fluctua-tions in the price of poles, but a gradual increase. That was the 25 C pole that I discussed then. The 25 B cost \$.85 in 1910 and they cost \$4.60 now. The 30 foot C pole, cost in 1910 about \$2.15 and in October 1919 cost \$6.00. There is not anything at the There is not anything at the present time to indicate there will be any reduction in the prices of that material. This is my opinion that there will be no reductions in the pole prices especially because the pole supply is limited, and the demand is constantly increasing and I cannot see any reason why we could expect a decrease in the price. In fact, I really expect the price to increase. Labor conditions would have something to do with reference to the continuance of the high prices of that material, and freight conditions would have some-increased freight rates. I am speaking now of the increases which have been put into effect during the government operation, and in all probability there will be additional increases. I make that statement because the government has been operating the railroads at a deficit, and when they are turned back to the owners in all probability the owners will have to absorb in increased rates the increased cost of operation. It is my understanding that the government is now figuring on re-

turning that property to the private owners within the next Then, in order to take care of these deficits few months. which have been accruing, the railreads will have to increase their rates, they will have to produce a revenue from some source, and that is the only way that I know of that they could produce

it, by increasing the rates.

On the second page of my Exhibit the first pole is the 30 foot B. The price of 30 foot B and 35 foot C was the same in 1910, \$4.50. They both went down slightly in 1911 to about \$4.30, and then from 1911 the prices began to increase and in 1919 the 30 B pole cost at the woods about \$9.15, as compared to \$4.50 in 1910.

On the last page of this exhibit is the average monthly price of Lake Copper at New York, over a period of years from 1900 to Lake Copper is raw copper as it comes from the mines, unrefined. The price of copper does fluctuate more so than the aver-

age item of material in telephone plants.

The curve on that exhibit represents the history of that price

from 1900 to 1919, and if that curve was smoother out it would have a tendency of a gradual increase. During the war the government regulated the price of copper and placed a price of 23½ cents on copper, and that sort of regulated and held it down. After the armistice was signed copper began going down until,

as the curve shows here, a little below twenty cents, and then started up again and in 1919 at one time it went down as low as fifteen cents, and then recovered and went back to approximately 22 cents. It is now on an upward incline,—it fluctuates.

Cross-examination.

(Questions by Mr. Howard:)

I have put in most of my life in telephone work. When I stated that labor has been gradually going up since about 1900 I meant that as far as telephone work is concerned. It has been gradually going up, and I mean by gradually that wages have been gradually increasing from year to year. As far back as I can remember wages have been gradually increasing from year to year. The increase from 1915 to the present time has not been gradual, that was a little abnormal. I haven't an exhibit showing the labor increase in the way that I have the pole increase. When I made my investigation in Houston it showed that labor had increased 54.76 per cent since 1917 which is a pretty abrupt rise. It would be more nearly correct to say that there was a gradual rise up to 1917 and then an abrupt rise.

I have stated that price of both material and labor will increase and I stated that from the investigations that I have made, 3133 and opinion of others on the subject that there is no likeli-

hood of prices receding or labor receding. I do not happen to know who succeeded Mr. Herbert Hoover in his position with the government. I did not see an article by his successor in which he predicted a decline on all things of at least 25% in the next six months, by June, that the cost of living would decrease 25½ by June 1st. I did not see the article but I did see one in the paper the other evening where the clothiers in convention in Chicago stated that clothing would increase in price, spring clothing would be increased from 25 to 40%. From the study and investigation I have made of the conditions, I cannot see any reason to expect a decrease in prices as long as labor conditions remain as they are. It would be possible for labor conditions to take a tumble themselves but it doesn't seem to be probable under present conditions. That abrupt rise in labor prices along about 1917, in this particular locality, I think it was largely due to other industries drawing on the labor of the utilities. Other utilities that were able to pay better wages, such as oil industries. I don't know about any others. Shipbuilding, armp camps, aviation fields and things of that sort. account of the oil industry I would say that labor conditions in Houston are a little different from other places. However, they increase all over. There are prospects of the war being over, in fact, it is over so far as hostilities are concerned but peace is not 3134 signed. I have heard it quoted by wise men all over the country that when the peace treaty is signed that is going to restore conditions but the fact remains the laborers are striking constantly for increases. The coal miners have recently struck. The very fact that they struck threw a good many people out of employment. A great strike movement would disturb conditions, yes, sir. If the coal strike had been continued even until now, the industries of the country would have been seriously crippled.

"Q. Then, if the strike had been continued to now and ended, then there would have to be a reorganization, when men who had been patronizing the bread line and the soup kitchens as they do in times of trouble like that, they would try to seek employment again, and as seekers of employment they would have different conditions

to contend with than when employment is seeking them."

"A. I have endeavored to arrive, after a study, of a fair base, a

fair labor base, which I have used in this case.'

In my judgment I do not think they are going to fall within three years, from the information I could gather there is no possibility. I was informed that very likely these wages would increase in 1920. I have gotten my information in this City from the officers of the

Southwestern Telephone Company and the Officers of the 3135 Houston Lighting & Power Company. They are the men I talked to. They are the men who employed this type of There is no place else to go to get this information. is no place else to obtain this sort of information, because they are the only people who employ this character of labor. I did not know anything about the Houston Lighting & Power Company being threatened with a reduction of its rates because it was earning altogether too much money, earning excessive returns upon its invest-I am not familiar with that. On account of these oil industries paying better wages, it is going to be necessary, as I have been told, to increase their wages if they are going to retain their employees. Labor has a tendency to seek higher wages and higher employment, and if there is any particular place in the country that is paying higher wages it tends to draw labor to it and increase its I don't think that condition would obtain here from the information I have obtained, not the class of men, not the character of men who are used in this kind of work. Utilities have been postponing construction during the war period. There are not many of them carrying it on now. They have been like everyone else, waiting to see if the materials would be reduced. If I had the money to invest I would come to a city like this now and embark in the telephone business and reproduce a plant new and consider that I was embarking on a sound business enterprise. If I wanted to go into the telephone business, and after the study that I have made as to conditions, and the probable future conditions,

3136 I certainly would. I would do that being sure that I was going to get a rate that would pay a return on these values because I would consider that the people in this community would be fair. If I wanted to enter the Telephone business I would invest.

my money at this particular time in the telephone business in a plant the magnitude of this plant. You can't hope to be able to obtain reduced prices at any time in the near future. There are so many elements that are entering the regulation and governing of

these prices that I don't seem how we can hope to do it.

"Q. Isn't that a pretty strong statement that he can't hope to get lower price level than exists under the existing conditions, but under the conditions such as these, if they remain just as they are, if the conditions don't change, that is evident. But I am asking you if the element in this proposition that prices are at an abnormal high level due to a specific cause, isn't sufficient to deter any sane business man from going into a city of this size and constructing a large telephone plant on the present prices, and with a view of making a profit out of it."

"A. It is my opinion that we are entering an era, we are living under new conditions, we will never get back to pre-war conditions, and the quicker we readjust ourselves to the new conditions, the quicker normal conditions, or the approach to normal con-

3137 ditions will be reached."

I can't see any possibility for a reduction in prices and I would be willing to go into it and invest my money as a prudent business man upon the assumption that there would be no decrease in the readjustment of prices. I did say a moment ago that they had been holding off even construction but they are gradually purchasing material and beginning reconstruction work; they are beginning to realize that the former conditions and former prices will not be reached at least for some years to come, if ever. I do not know of any telephone plant of this magnitude having been sold recently.

Redirect examination.

(Questions by Mr. J. D. Frank:)

I have made the statement that I never expect to see the pre-war level of prices reached again and I make that statement by reading the various scientific journals, economists' statements, and general information which I have obtained. It is my opinion that pre-war prices will never be reached again.

With reference to the magnitude of this Houston Plant, or plants of this magnitude, they are not commonly bought and sold upon the market like stock and bonds. That is true with refer-

3138 ence to large properties of all kinds.

I have prepared an exhibit setting forth the detail of my unit costs.

Mr. J. D. Frank: We offer that exhibit in evidence as Plaintiff's Exhibit No. 31.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 31, and said Plaintiff's Exhibit No. 31 is transmitted herewith and Exhibit file.)

I will take the item of 25 foot 6 inch poles on page 48 and show how I arrived at my unit cost. That is a size very commonly used in the plant. That appears in the top row of figures under the heading "Heights of Poles, Feet," 25, and the next line "Size at Top, Inches," 6. That is similar to the 25 foot Class C pole. In this unit cost detail it is identically the same thing for the reason I simplified the matter by merely indicating the inches at the top. That means it is 6 inches in diameter at the top, but it also means that it is a 25 foot Class C Pole. They are one and the same thing in this case. Under the heading of "Material" the price shown is \$5.50, that is a price delivered at Houston. I obtained that price from a pole Company; in fact, I obtained prices from three pole companies on poles, and have treated those prices that they have given me as f. o. b. Houston. To the price of the poles I have

given me as f. o. b. Houston. To the price of the poles I have added the supply expense, 7%, which gives 38 cents, making the total material cost of the poles \$5.88.

The supply expense is explained thus: In reproducing this plant I would have to have storage yards, warehouses and an organization for the purpose of handling supplies in caring for them from the time they reached destination until they were finally ready to be placed in the plant. In order to take care of this expense I have indicated it under the heading of "Supply expense." Supply expense consists of the rent of the ware houses, storage yards, light and heat, cartage from the freight depot to the ware-house or storage yard. We would have to have temporary shelving in some of my warehouses, partitions, fences around the storage yards, you would have to have night watchmen, stock-keepers and men to look after this material, to receive it, check it, sort it and shelve it, and after that the construction forces would draw on the warehouses for the supplies as they were required in the plant and these same men would have to re-issue this material to the construction forces from time to time as the work progressed. And in addition to that I would have to have a purchasing department, someone to look after these supplies and the purchasing of them, to see that the proper grades were secured. The purchasing department would have to be housed in separate quarters with rent, light and heat, and they would consume stationary and have other incidental ex-

worth of outside distributing plant material to handle that material. That does not apply to land, buildings nor central office equipment. Also, it is customary to make a check of the supplies periodically and then to carry in the supply expense such shortages or discrepancies as occur. I am familiar with the ruling of the Interstate Commerce Commission with reference to this item of expense, and I know that it is an item set out by the Interstate Commerce Commission. Seven per cent is not the figures that is allowed in every case. That depends. I know from my own knowledge and experience that the supply expense runs from five to 10%, but it was my best judgment that in reproducing this plant that I could do the work on the basis of 7%. And I might mention in connection with this, inasmuch as the Fort Worth case has been mentioned.

that in that case I used 9%. I used 9% in that case for the reason that we made an investigation of the Telephone Company's book and found that it is what it was costing the company. I have not made any such investigation in Houston to determine what it would be. In Houston it may be more, and it may be less. In the way I have built up my organization that is my best judgment as to what it would cost to handle the supplies in Houston.

The next item is labor. The labor is figured at \$4.89 and and I arrived at that figure by referring to page 18 of this 3141 same exhibit, under the heading 24' 6" pole, the first item is unloading, inspecting, sorting and piling, the amount is 31 cents. The next item is shaving, 48 cents; the next item is roofing, gaining and boring 46 cents; the next is extra labor hauling 14 cents; the next is locating, 30 cents; the next is digging; \$1.08, and the next is erecting \$2.12, making a total of \$4.89. When I say unloading, inspecting, sorting and piling, I am speaking of unloading the poles from the freight cars upon their arrival in Houston. I have all this in detail in another part of my exhibit showing how I arrived at these figures. On page 12 at the bottom of the page is the heading, "Unloading, Inspecting, Sorting and Piling of Poles. Gang Organization." There I have detailed the number of men, the direct supervision, the indirect supervision, the cost per gand day, and the cost per gang hour. The cost per gang hour is \$4.67. By referring to page 11, under the heading 25' 6" poles, the number of poles per car has been figured at 135, and I have estimated it would take nine hours to unload the car of poles. The cost per gang hour is \$4.67, and makes a total cost of \$42.03. Dividing the \$42.03 by 135 poles would give me a cost of \$.31 per pole. is as to the 25' 6" poles. In other words, I have figured out just how much time would be required to perform the various pieces of work that would have to be done in receiving those poles,

carrying them to the job, and then erecting them. I considered the rate of pay and the time consumed to perform the

various functions necessary.

I have "Hours on Unload" for 25 foot 6 inch poles as nine. do not show that in further detail because that is the basis to work on. I determined how long it would take to do this work. my experience and knowledge of the business I know the operations necessary to go through. Those poles are received at destination and the stakes on the car have to be cut, and skids placed to run them on from the car down to the ground They have to be sorted out by the sizes, if it is a mixed car, the 25 foot poles selected and put in one pile, the 30 foot poles in another, and the 35 foot poles in another, and they have to be handled-in all probability they may have to be moved off the right of way. That is only a temporary location. My estimate as to the time required to do this work was made on my actual experience in the telephone business. have done a considerable amount of that work while working for Telephone Companies and have handled large gangs of men in doing that particular kind of work and been on jobs where the work has been done.

On page 48 the next item of expense in connection with that 25 foot 6 inch pole is "Incidentals, 53 cents." That is worked 3143 out in detail on page 20½, which is an extra sheet in my exhibit. Under the heading of 25 foot poles, hauling the poles we have estimated at 25 cents. It would be necessary to have a team with the erecting crew to transport their tools and the men from one position to another, and this team we have estimated at 28 cents. The incidentals merely include the cost of the team, or means of transportation. It goes not include any labor. I find

as the cost in place of one of these poles \$11.30.

me a cost of \$12.71.

I will take up and explain the item of aerial cable which is on page 29 of the same exhibit. Fifty pair size is the size most commonly used. Up at the top is indicated the cable, 22 gauge, and the type of the cable. This type of cable happens to be N. A. which is a lead antimony sheath with small diameter. The size of the cable is indicated across the top of the next line, and the gauge directly following. The next line shows the weight of the cable and reels per thousand feet of cable. This is shown for the purpose of determining the freight. Under Material Cost, the cost of the cable f. o. b. Hawthorne, Illinois, is shown as \$194.00 per thousand feet of cable. The freight from Hawthorne, Illinois to Houston, Texas, car load lots on this class of material is 65 cents per hundred. Sixty five cents per hundred on the total weight of 1,465 pounds equals

the freight, \$9.52, to which I have added the war tax of 3%, 3144 28 cents. The next item is splicing material. Splices will average approximately 2 per thousand feet, and the splicing material would cost \$5.98. In addition to that I have included in my unit the splicing material necessary to place the terminals, 3.6 terminals per thousand feet. I obtained this average by taking the total amount of cable in the plant and dividing it by the total number of terminals in the plant, which indicated that to each thousand feet of cable there was an average of 3.6 terminals. That is based on actual facts as to the number of terminals here in Houston, and the amount of cable that we have here in Houston. That gives

The next item is miscellaneous material. In stringing this cable we use a soft soap, and I would use it, to lubricate it so it will slip easy. That is insignificant, and probably amounts to only 50 cents per thousand feet. That gives a sub-total of \$222.99 per thousand feet, to which is added supply expense of 7 per cent, and obtain a total of \$238.59. This has been indicated as Total A, but represents the total material cost of one thousand feet of this type of cable.

My next item is labor. There are certain operations that you perform regardless of the size of the cable. Those operations I have indicated there as "Constant A." Constant A is shown in detail on page 37 of this exhibit No. 31. There again I have set up the labor as I would arrange it, to do this class of work. You

will notice the first heading there is "Labor Placing Messenger." That I have estimated at \$19.04 per thousand feet. The next item is "Labor Placing Cable." That I have estimated at 51 cents.

That is not the entire labor cost, that is boring the holes, for messenger hangers, and placing hangers averaging 9 per thousand feet of cable. The next item is labor placing rings on strands, \$8.16 per thousand feet of cable, then the labor of jacking up the reels, taking off the lagging, stringing, is figured at \$19.04 per thousand feet. Then after the cable is strung it is necessary to send a man back over it — space the rings, and I have estimated that at \$1.63 per thousand feet, making a total of \$48.38, and I have indicated this total as "Constant A." Then by again referring to page 29 you will observe that is the amount I have used. The next process was to determine additional labor for splicing, which I have used as "Constant B." That fluctuates a little, but I can explain it in detail by referring to page 41 of the same exhibit. That is, the detail of Constant B is shown on page 41 of the exhibit. Down about the center of the page is the item of labor. The labor necessary to make the straight splices in the cable which is indicated under the heading "50 pr." is shown 7½ hours time two equals 15 hours. In

other words, there are two splices per thousand feet of cable, 3146 and it would take 15 man hours to make those splices. The rate of pay for this particular class of construction amounts to \$1.02 per hour. Fifteen hours at \$1.02 gives me the figure of

\$15.30.

The next item is terminal splicing. Of each thousand feet of cable there are 6.3 splices, and it would require 6 man hours to produce each splice, or a total of 21.6 man hours at the rate of \$1.02 per hour would cost \$22.08. That \$1.02 per hour is not for two workmen but that is the man hour rate. This has all been reduced workmen but that is the man hour rate. to man hours, and makes the compilation a whole lot easier. next item is placing terminals and boxes. There are 3.6 terminals to be placed for each thousand feet of cable and I have estimated it will cost \$1.00 for each, and there are other miscellaneous items, Placing Cable Grounds and Bonds \$4.00 per thousand feet. I get a total as Constant B amount to \$47.93, which is shown on page 29, last item under labor. That gives me a total labor cost of \$106.31 per thousand feet of cable. The next item, "Incidentals, \$4.89." I have worked that out on page 43 of my exhibit. Down the left hand column is shown the size of the cable. In the next column is shown the number of feet of cable per reel-that is standard length-and in the next column is shown the number of reels per load. In the next column is shown the number of trips per

3147 day, which equals a total of 6,000 feet of cable per day. At a cost of \$8.00 per day for transportation that would equal \$1.33 delivery charges per thousand feet of cable. That is the first item indicated below, the item "Hauling," \$1.33. I am still talking about 50 pair cable, I am following that fifty pair cable all the way through. Then, there is a charge of returning empty cable reels of 90 cents per thousand feet of cable. That is, returning it to the common concentrating point, or storage yard. Those cable reels are charged up when they are shipped by the suppliers, but I have not charged them into this job, because when they are returned credit is given, credit is allowed for them. Therefore I have not figured in

my appraisal the value of those cable reels. This cable would be pulled with a team, and the next item is "Team Pulling Cable, \$2.66" making a total incidental expense of \$4.89 per thousand feet of cable, and that is the amount I have shown on page 20 of this exhibit.

On one page of this exhibit I have labor divided up into direct supervision and indirect supervision. That is explained thus: It would be necessary in reproducing a plant of this size and magnitude to have a well organized force do the work economically. I have started from the ground and built up my productive men, and have organized gangs which a foreman could reasonable supervise. I

have estimated that a foreman could supervise efficiently 3148 about eight men. In addition to that it would be necessary

to have supervising foremen who would have charge of probably various gangs, and in addition to that we would have a general plant superintendent, some one who is in charge of the entire work. The indirect labor consists of the General Plant Superintendent, his office force, his expenses and office rent, stationery, light, heat and so forth.

I have introduced in evidence exhibit No. 29 which is to show among other things what part of the labor is direct and what part is indirect, explaining how I have built up my organization. They all go to the cost of performing this particular work, and I have divided it up into the men who actually do the work, and the men who supervise the doing of it. And I might explain, in addition to that, that in there is the item of tool expense. Tool expense covers the tools that are worn out during the construction, or broken or stolen, or the tools that are actually consumed in doing the work. I have considered that as a part of the cost of doing the job, and included it in indirect supervision. Before I leave that I would like to explain that by adding the total material of \$238.59, and the total labor of \$106.31, and total incidentals of \$4.89, I obtained a total of \$349.79 as the cost per thousand feet of cable in place. That

also includes the cost of placing the associated material.

That is everything that goes with the cable.

Cross-examination.

(Questions by Mr. Howard:)

Of course, I did not try to employ any men to build this plant nor did I try to buy any material to build it with. I obtained prices for material on the assumption that is would be built. Noboly knew but what I would build it when I asked for the quotations on the material. The suppliers when they furnished me the prices didn't know whether it would be built, or not. On poles I obtained quotations from the Page & Hill Co., whose general offices are at Minneapolis, Minnesota. Also, on poles from the Volentine-Clark Company, whose offices are at Minneapolis, Minnesota, and also from the National Pole Company, whose offices are at Escanaba, Michi-

gan. I got from those dealers the prices that I have used in my They were all the same, all alike on each class of pole. They happened to be all alike. I wrote to three different suppliers and each of them gave me the same figures, except on some Western cedar poles, they were a little different in their figures, but I am referring to Northern White cedar poles. I don't know whether there

is some sort of combination or not, but those are the replies that I received. When I wrote them I did not tell them that I was going to build a big telephone plant here in the City and would like to get bids. I merely asked them for quotations on various sizes of Northern Cedar Poles, and specified the sizes There is a way of getting competition in contracts for furnishing poles to a big plant like this, and I thought I was doing that when I asked the three companies for prices. If I was going to build a telephone plant they would send a representative to visit me, they would be interested enough to send a representative down here. That is what happened in this case, Paige & Hill sent a representative down. He has an office in Kansas City and came up to see me, came to see why I wanted the quotations.

Redirect examination.

(Questions by Mr. J. D. Frank:)

I have prepared an appraisal of this property and have marked that "Valuation of Plant.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 32.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 32, and said Plaintiff's Exhibit No. 32 is transmitted herewith in exhibit file.) 3151

This appraisal contains a summary and recapitulation. The recapitulation is shown on sheet one and 1-A, and the summary is 1-B and 1-C. My final figures are shown in the summary, the total reproduction cost new of the physical plant is shown on pages 1-A and 1-B showing the total physical plant with the working capital and

cost of establishing business attached.

The first item that I have on page 1 is land. I find as the value of the real estate, of the land \$204,144 and that includes all of the land used and useful in connection with the operation of this Houston Plant. That is shown in detail on page 2 and page 3 and page 4. The way I arrived at the values which I have placed on these various items of land is I obtained an opinion from two local real estate men, Mr. E. N. Mills and Geo. L. Wilson. They are both real estate dealers in Houston. After I obtained their figures I used the lowest figures, that is, the lowest figures submitted by either one of those real estate men.

I don't know what figures Mr. Hoag was using on this land. Mr. Hoag and I have not worked together in making our respect-3152ive appraisal of this property, only insofar as he furmished me the physical unit without any prices attached. Up until the time I entered the Court Room here Friday and heard Mr. Hoag testify as to the value of this property I did not know what value he was placing on it. Our work in making our respective appraisals has been entirely separate and independent and I have not changed my figures any since I heard Mr. Hoag, my report was all complete by that time.

The next item on the recapitulation on page 1 is the buildings. find as the value of the Preston Building, \$332,541. The Hadley Building \$64,118, the Taylor Building \$33,675 and the warehouse at \$300.00, making a total for the buildings of \$430,634.00. appraising those buildings I obtained from the engineering department of the telephone company the original cost of the buildings the years they were built. I then consulted contractors to determine how much material and labor, building material and labor has increased since that time, and I was told they had increased from 80 to 100%. I wanted to be conservative and I adopted the figure of 85%, and to the figures furnished me by the engineering department I added 85%, plus architect fees of 5% and in that manner determined the reproduction cost of the building. That is, that applied to the Preston and Hadley Buildings. The Taylor Exchange is a different type of building, and those materials have increased

only on an average of about 50%, so I adopted 50% on the Taylor Exchange. I got a figure of \$175,000.00 as the original cost of the Preston Building. I got that figure from the engineering department of the Telephone Company. That figure is supposed to include everything that went into the building, such as the wiring and the elevators and things of that kind, that is the figure that I desired to obtain. As a matter of fact, I have since learned that it did not include all the cost, but my figures were all made up and I couldn't change them. I learned that since I came to Houston in the last few days and the error, if there is an error in that, would be against the company instead of in favor of it. I have since heard what the original cost of that building was and it was around \$200,000.00, making a difference of something like \$25,000.00. used that as the original cost of the building and did not change my If I had corrected that it would have made an addition of figures. \$25,000.00 plus 80% of \$25,000.00 which would be about \$20,000.00more in order to make my figure correct on the basis on which I was proceeding, in order to determine the present cost of reproducing the buildings at the present time I conferred with contractors to dewhen, as a matter of fact it was \$200,000.00 in order to make my computation correct I would add the \$25,000.00 plus 85% of

3154 that in order to arrive at the present cost of reproducing that That would add about \$25,000.00 to it, but this information reached me so late that I didn't change my figure and allowed it to remain just as it was.

I had a figure of \$33,500 as the original cost of the Hadley Build-

ing. I have since learned that that figure did not include the whole of the building. I got my figure with reference to what was supposed to be the original cost of the buildings from the engineering department of the Telephone Company. I have not investigated the books to see what the original cost of the buildings were, I assumed that the information they furnished me was correct.

I got a figure of \$21,500.00 as the original cost of the Taylor Build-

ing.

The figure I used for the warehouse down there is not supposed to be the original cost of the building but that is my estimated cost. That is my estimate of what it would cost to reproduce that building.

In my investigation with reference to the present prices of material for the purpose of arriving at what it would cost to reproduce those buildings at the present time I conferred with contractors to determine how much building labor and material had increased

since these buildings were erected, and I was told it had increased from 80 to 100 per cent. By contractors I mean building contractors. And then I adopted the figure of 85%, and since that time I have learned that the Interstate Commerce Commission's Bureau of Valuation are using 85% as their base. I didn't know that at the time I used it in my report. That is, in estimating the present cost of reproducing buildings of that kind they are using the figure of 85 per cent as the increase in prices in the last few years. I think that is supposed to cover from 1912 down to 1919.

Cross-examination.

(Questions by Mr. Howard:)

The figure of \$175,000.00 was given to me as the original cost of this Preston Building. I was supposed to have gotten the entire original cost of the building but it seems that was not the entire original cost, that the original cost was a little more than \$200,000.00. The value that I arrived at as the value of that building is \$331, 187.50.

That set up on page 1-B is the cost of the building, plus the overheads. With the over-head added to it I get the building finally at

\$405,700.00.

Mr. J. D. Frank: I got that mixed up myself; I thought I had the page where he showed his final figures, but I see I did not. That was the figure I was intending to question you about, and I thought I had the final figure on that.

Mr. Howard: That is what I am concerned with, his final figure.

Direct examination.

(Questions by Mr. J. D. Frank:)

I show the land as \$204,144.00 and on page 1-B \$249,066.00. The figures as shown in the recapitulation, pages one and two, correspond with the detailed figures of the bare physical plant as shown

throughout the inventory, without the items of Engineering, Contingencies and Ommissions, Interest during construction, and the other expenses that have been included as overhead expenses. This figure is larger because I have added the overheads. If you will notice, on page 1-A I have added the overhead expense to the plant collectively, when on page 1-B in the summary I have added the overheads to the individual items of plant. In working out my overhead expense I have taken a weighted percentage and applied that to the property as a whole, and that would explain why I have such items as Engineer-

ing, Ommissions and Contingencies, etc., charged up against land. Instead of taking particular parts of the property and

saying I would have omissions and contingencies,—for example, if the distributing system is 8 or 10% and there are no ommissions and contingencies on some other part I have taken all the property as a whole and have gotten the weighted average percentage for ommissions and contingencies on all of the property. And I have treated these other items of overhead expense in the same way. It would not have been any different if I had figured it out as to the various parts of the property and applied the actual figures to them.

Then, on buildings I get as my final figures, in the summary on

1-B including overheads \$525,374.00.

Cross-examination.

(Questions by Mr. Howard:)

On page 1 I put the land in at \$204,144.00 and on page 1-B I put the land in at \$249,000.00, a difference of \$45,000.00 which is the overhead expense.

"Q. What overhead expense?"

"A. Items of contingencies and ommissions and engineering——"
"Q. What ommissions and contingencies do you have on that

land? You don't loose any land?"

"A. I merely took and weighted it out for convenience sake, by applying it to the property as a whole. That is the customary practice with engineers, to apply the over-

heads to all property."

If I took the method of taking the items and figuring them out upon an accurate basis I would obtain the same result exactly. You might eliminate the engineering from the land, but it would be increased on others items of plant so the final figures would amount to the same thing.

Redirect examination.

(Questions by Mr. J. D. Frank:)

I don't remember exactly how much the contingencies and ommissions would be on the distributing system if I worked it out as to the distributing system. I have worked it out once or twice,

but I know that when it is worked out in detail it is very much higher than it would be by weighting it out over the entire property. The result has always been the same, and this is a much simpler method of getting the answer, and consumes far less time. It would have been considerably more than 4%, 8 to 10%. Instead of figuring out the ommissions and contingencies as to

for the property as a whole. In some items of property it would be considerably in excess of 4%, and some it would be considerably less than 4%. As figured here the contingencies and ommissions on the Preston Building would be something like \$13,000.00. That is, by applying the 4% it would be something like \$13,000.00. After I figured it out I actually found an ommission which amounted to something like \$45,000.00. I am not considering that in arriving at this 4 per cent, I didn't expect that ommission. I know those things happen invariably in valuation work, that is the reason we make that allowance. That is the method generally employed by reputable engineers and the method I have used in other valuations made by me.

This increased figure that I have here on page 1-B for the building amounted to \$525,374.00 includes among other things the architect's fee. It does on the increased value of the building, and I assume that has been taken care of in the figure they furnished me as the original cost of the building. That also covers my interest

during construction and the other overhead items of expense.

It is a human impossibility to valuate property of this size without considering ommissions and contingencies. I would like to give you an example in the Fort Worth case, and I refer to it because it has been referred to before. In the Fort Worth case the City and the Telephone Company agreed to make a joint count of the physical property, and that was very carefully checked in detail. The count made by the Telephone Company was checked by the City, and the count made by the City was checked by the Telephone Company, and we used every precaution we knew of and could use to make an absolutely accurate field count of the prop-When we finished our work and checked up, we found that an item of 6-way conduit, amounting to something like ten or fifteen thousand dollars has been omitted in the compilation of the In other words, after they were tabulated, in transcribing them on the sheets to be priced that item was omitted, and we also We found, I believe, a coal-chute arrangement found other items. on the building, and other items that had been omitted, so I know from my experience that you must take into consideration contingencies and ommissions, for they always happen. I have divided contingencies and ommissions into these three classes: Intentional,

Unintentional and Contingencies.

The intentional ommissions are the ommissions that we know exist, but are taken no account of in building up the unit. For instance, sag in aerial cable, sag in wire, short ends of cable, short

ends of messenger strands. In every cable splice there is a loss of some two to four feet, and loss of material by workmen, 3161 material is sometimes stolen, and sometimes burned. I

know of one instance where a carload of poles was unloaded on the right of way, and the next day the entire car was burned up. Loss of material by breakage, temporary guards to protect the public, sometimes necessary to re-dig holes to satisfy property owners, and in digging holes we might strike sewer pipes or gas pipes and have to change the location of the pole. Re-routing cables and wires to satisfy subscribers' loss of production due to foreign wires; delivery of material to the wrong location; wrong kind of material, slow deliveries; the truck may break down and hold up the work. Supplies are sometimes lost in transit and hold up the work; in the business district it is sometimes necessary to do the work at night and Sundays to avoid the interruption of traffic. That causes an increase in the expense of doing the work. That is not shown when you go out to make an inventory of this property and make an appraisal of it.

Ommissions of such items as extension bells, ground rods, switches, jacks, push buttons, bolts and other inconsequential items of equipment. Re-sodding of lots after buildings are completed; pumping water out of the basement; water pumped out of manholes; and sometimes it is necessary to redecorate or repair the operating room after equipment is installed; necessary to enlarge openings in the

buildings to permit equipment to pass through; temporary wiring for electric lights; stoves and other conveniences for

the use of the installers; it is often necessary to use a better grade of insulated wire in certain localities; abnormal cost of excavating due to sheet water; stenciling poles and cable terminals; re-inforcing poles; sometimes in placing underground conduit it is placed on the inside of the curb, and it is necessary to re-sod for the property owner. Sometimes necessary to re-route the pole leads. Dead drops have not been counted in this inventory; abnormal weather conditions sometime- decrease the amount of production. I have proceeded on the theory that I would have normal weather conditions and I have not allowed in my unit for abnormal condi-There is an additional cost due to embankments caving in and damage due to heavy rains. Sometimes it is necessary to work overtime to rush the work; in a big job like this you would have to maintain a blacksmith shop to keep the tools in shape; unavoidable delays due to accidents on the work; it is easy to miss certain items of underground cable plant; frequently the cost of aerial cable construction is increased because the workmen are delayed while the electric light company gets their wires out of the road; and ommissions of bridle wires on poles; circular loom very hard thing to detect on the wire; there would be delays due to subscribers objecting to wires being run across their property. Additional, cost sometimes in refilling a trench with mud. Delays and danger of building

the conduit system under railroad switch yards; cost of digging test holes which cannot be used later. Occasionally necessary to lay the conduits either wholly or partially under water.

Sometimes necessary to pay damages by reason of blocking traffic in alleys or narrow streets. Occasionally in narrow streets where traffic is heavy excavations must be bridged and all material must be transported either by hand, or in wheelbarrows: subsidiary cables and subsidiary conduits sometimes are not run directly from the manholes to the terminal of the building, and in measuring it the field man has no way of determining that, and they measure and Sometimes in placing underground cables the air-line distance. conduits become plugged and it is necessary to dig up and open the conduit in order to clear the obstruction; water in manholes; manholes are often located under streets where the work has to be done at night. Cable sometimes sticks in the conduit, and it is necessary to pull it out, which increases the cost. And there is the element of human errors. By that I mean that sometimes we make mistakes. That underground cables for example: It is ordered by standard reels and those lengths are measured off before the cable is ordered from the factory, and it is ordered from the factory in these specific lengths, and they are put on the reels and marked with the specific length on them. It is very often in delivering these reels the

wrong lengths are delivered; workmen go in for material 3164 and get the wrong kind of material. There is an element of human error in every class of work. None of those things would appear when you started in to appraise the property which you find in the City of Houston, they would not be appraised. You could not tell from an inspection of the property that these things did actually happen, but I know from experience in the telephone business and in construction work, that those things do happen. would happen again if I started in to reproduce this plant.

I will give you a few examples of unintentional ommissions.

Mr. Howard: You didn't intend all those that you have read over-they are not intentional ommissions?"

Mr. Topping: Those are what I have termed intentional ommis-

sions.

Mr. Howard: That is what I thought; you treated all those you have read over as intentional ommissions?

Mr. Topping: Yes, sir. Mr. D. A. Frank: You don't mean that, do you?

Mr. Topping: Under unintentional ommissions such items as ommissions of plant, errors in compilation of field data, 3165 Under contingencies—there might arise a and so forth. labor dispute which would delay the work; there might be extremely unfavorable climatic conditions. You sometimes have demurrage charges on cars. All of those things I know have happened and are likely to happen and will happen again, and from my knowledge of the business and my experience I know that they usually allow from 3 to 5% for the item of contingencies and ommissions, that is, as to the property as a whole, and I have adopted the percentage of 4% as a fair allowance in figuring the reproduction cost new of this property.

Cross-examination.

(Questions by Hr. Howard:)

Under intentional ommissions I have such things as water in manholes and delivering the property to the wrong place, and the other things I have mentioned here. These were the intentional ommissions.

"Q. Then you get a whole lot of things like that, and make a whole lot more, and add \$350,000.00 to this plant for good measure?"

"A. I have added 4 per cent."

"Q. \$350,000.00 practically?"

3166 Mr. D. A. Frank: Is that added for good measure?"

"A. No, sir, that is the overhead expenses."

That is based on the allowance made by the Courts and commissions and experience. I have had considerable experience in valuing plants of this magnitude, but not in building them, but I have been associated with work of this magnitude. The inventory at Fort Worth was made jointly by the City and the Telephone Company, that is, the field count of the property. We made a careful inventory and went over it again and found an item of approximately ten or fifteen thousand dollars. Also we found an attachment on a building, I don't remember exactly what, but it seems to me that it was some sort of coal conveyor. It had been overlooked. Also the sidewalks and fences had been omitted, around the buildings and some fences around some yards. That is all I can recall at this time.

Redirect examination.

(Questions by Mr. J. D. Frank:)

I do not go around after I have made an inventory of property in this way, and have made my appraisal and check it up to try to discover ommissions which have been made, and that 3167 was not done in the Fort Worth case. The property was counted jointly by the Telephone Company and the City and we made a careful check of that before we finally completed the inventory for the purpose of discovering whatever errors existed. These other things which we accidentally discovered, were after we had made a careful check of the inventory. We do not go around and re-check these things after we have made our valuation of the property, for the purpose of discovering the ommissions. Even if we were re-checking and looking for ommissions we could not determine what contingencies existed.

Yesterday afternoon in response to questions propounded by Counsel for the City I used some figure- of two and three-quarter

million dollars with reference to the Fort Worth property. That was my estimate of the reproduction cost, new, of the physical property. As a matter of fact, the Master found as a fact, from the records, that the value of the Fort Worth property was something over three million dollars. As compared to the Houston Telephone Plant the Fort Worth Plant has about half the amount of plant and approximately half the amount of stations that the Houston plant has.

In my ommissions and contingencies I have allowed 4% 3168 in this case. I do not always allow 4% in every case, but it varies from 3 to 5%, according to how the units have been built up, and other facts in connection with the plant. In the Fort Worth case I allowed in the units for loss and waste of material, which I didn't allow in the Houston units. I therefore added that item into my contingencies and ommissions, using 4% in this case. That is why I used a higher percentage in this case than I did in the other.

Cross-examination.

(Questions by Mr. Howard:)

In the Fort Worth valuation I represented the City of Fort Worth. I did not put a final value on that property. I was requested only to determine the reproduction cost new, and that was the figure I submitted. I was requested by the City not to include anything for going value. My figure, as compared with the same thing as determined by the Company's engineer, was a little lower but I do not remember exactly how much, along about 7% lower. I did not go into the record cost for the City of Fort Worth in that hearing, but built it up on the reproduction cost. We both adopted the reproduction cost, new, theory up there.

3169 Redirect examination.

(Questions by Mr. J. D. Frank:)

My next item of overhead is engineering, 5%. The item of engineering includes the salaries and expenses of the engineering department necessary in preparing the plans and specifications for the construction work, the preparation of estimates and reports, and the checking of the plans and specifications and completed work, and the cost of testing and inspecting the work after it has been completed. Proper engineering is one of the very essential expenses, for it insures the most practical plant, most economically distributed, and placed in the most advantageous position so that every dollar will produce the largest return. The engineers inspect the work. They first lay out the work for the construction forces, and they periodically inspect the work to see that it conforms to the specifications, and when the work is finally completed, they inspect it to see that there is no faulty construction. It requires a corps of engineers, draughtsmen, stenographers, and is one of the real factors

in the erection of the plan. Those men do not just prepare the plans and specifications and then let the matter drop but they follow it up and inspect the work as the work progresses, and then when the work is finished they make a final inspection. It would not be possible to construct a property of this magnitude

when the work is finished they make a final inspection. It would not be possible to construct a property of this magnitude 3170 without any system whatsoever without the employment of these engineers. If you wanted to produce a plant in the most efficient and economical way it would not be possible to construct it without having the supervision of competent engineers. I used the figure of 5% there. That is a percentage that I have always used. I have found from my experience that it is reasonable and fair, and it is the commission's and court's usual allowance. In other words, in order to construct \$100 worth of property, you would have to have an item of engineering expense amounting to \$5.00 on each \$100.00 worth of property. That is the allowance usually made by engineers and commissions. They do not always make an allowance of 5%, but it varies from 4 to 6%. Five percent is the amount that is customarily allowed.

Cross-examination.

(Questions by Mr. Howard:)

I would not say how many men it would take to engineer this plant and do it right because I haven't attempted to figure that out in this case. I haven't given it any thought. I know five per cent to be a reasonable and fair allowance, and one that is customarily used by reputable engineers and allowed by the courts and commissions. Various commissions have allowed it.

3171 Mr. D. A. Frank: Every one of them.

I have given it consideration but I haven't worked it out in this case. I never worked it out in any case but that is the recognizes percentage that is usually allowed. Five per cent of six million dollars would be three hundred thousand dollars for employees in this particular line of work in the construction of this plant and I would consider it money well spent, and wouldn't expect to be able to reproduce this plant with any less expenditure. I do not put that in there just because somebody else said it was the right thing to do, but from my own knowledge of the business I know that expense is incurred in the construction of every plant if it is constructed in an intelligent and economical manner. I haven't figured it out in detail, but have adopted it from others.

Redirect examination.

(Questions by Mr. J. D. Frank:)

In connection with some of the overhead expenses the question of the economical construction period arises. I have prepared an exhibit treating that subject. Mr. J. D. Frank: We offer this exhibit in the economical construction period in evidence as Plaintiff's Exhibit No. 33.

3172 (Thereupon said Exhibit was received in evidence and marked Plaintiff's Exhibit No. 33, and said Plaintiff's Exhibit No. 33 is transmitted herewith in exhibit file.)

The first step in attempting to arrive at the value of this property would be to consider the processes that a man would natually pass To reproduce this property it would require, as I have estimated, one year to do the preliminary work. That is, a man would first want to employ able counsel to search the statutes of the State to see if there were any objectional features, or any reason why he wouldn't care to make an investment of this magnitude in this State. After he had satisfied himself on that, to next step would be to determine whether or not the community would patronize and support the class of service he would have for sale. In connection with that he would have to make a commercial egineering study to determine approximately how many telephones ne could secure, and the approximate amount of money that would be required. After that he would secure from the City a franchise or permit, and that usually takes some time, and I have estimated to do the preliminary work would require approximately one year's time. I take three years as the actual construction period.

At the end of the preliminary year I am ready to purchase the land. I would purchase the land and in the first six months I would arrange with the architect for designing and drawing the

plans and specifications for the building. I would then start 3173 the erection of the building, and as soon as the building was far enough along I would begin the installation of the central office equipment. In the meantime other work in the plant would be in progress. As soon as the central office has been located, work would start on the underground plant and the pole plant. In other words, I wouldn't do the work by piecemeal construction, but would have the various parts of the plant going up at the same time. place it just as fast as I could economically. I have estimated that it would require three years from the time I started the plant until it is finished and finally come into service. In other words, that is the construction period. I do not believe it would be possible to do that construction work in less than three years' time-it might be possible, but in my opinion if it was reproduced in less time it would cost more money.

The next item of expense under overhead is "Public and Employees' Liability Insurance and Taxes, Legal and Administrative Expenses During Construction 4 per cent." I got that 4% from my experience in the business and I know that this is a fair and reasonable allowance. If I was attempting to reproduce this property I would not carry the risk of suits brought by employees, or by the

public in accidents that occur during the construction period.

3174 I would prefer to pay a premium for that protection. That is generally done by all large employers of labor that is, they carry this employees' liability insurance in order to protect themselves against damage suits due to accidents.

That item of Taxes there is an expense during the construction period, money that would have to be paid out from capital. is no revenue from which to pay these taxes, and it is an expense which is properly a capital charge. I know that the Interstate Commerce Commission has made a ruling with reference to that, they make allowance for Taxes during the construction period. the rules of that commission it is treated as a capital charge. matter of fact there is no revenue coming in during the construction period and that is why it is capitalized.

The next item is "Legal and Administrative Expense During Con-That is the legal expenses that would be incurred during the period, and the administrative expense, such as general supervision by the executives in the administration of the business. administration expense, as I understand it, is what is sometimes referred to as general expense. I have made a competition for the purpose of determining whether or not that 4% is a fair and reasonable allowance. I knew from experience that 4% was a conservative

figure to cover those items and I adopted that, and then later 3175 on as a check I worked it out to substantiate it.

Taxes, I have estimated at \$88,408.00. I determined that by taking the actual amount of money paid in taxes by the Telephone Company in taxes for 1919, and dividing by the amount of physical property obtained the rate of 1.16 per cent of the reproduction cost I have assumed that I would pay the same taxes which were paid in the year 1919 and I took that as a base to get a percentage upon which to work. I have, in making this computation, made allowance for the fact that under the laws of this State you have only to pay taxes on such property as is owned by you on January 1st of I get as the total amount of taxes \$88,408,03. each year.

The item of Public and Employees' Liability Insurance, I got a figure of \$64,836.08 on that. The insurance is based on so much per \$100.00 pay roll. I estimated the approximate number of labor- in the plant and then applied a rate per \$100.00 and got the total amount of \$64.836.08. I made a competition with reference to the other item and worked it out in dollars and cents, and got as the total \$293,990.55. That does not work out 4% of the reproduction cost new of the physical property, it worked out 5.26 per cent. Four per cent would amount to \$223,532.88 and that is the figure that I

have used, in this case,

3176 The next overhead expense is interest during construction. The reason I figure interest during construction in making an estimate of what it would cost to reproduce this property is because the money would be invested in the plant with no revenues derived therefrom, and the investment would lie idle during the construction period of three years. In figuring interest during construction it is my practice to take one half of the money for all of the time, or all of the money for one half of the time but in this particular case I have taken all of the money for one-half of the time. I used a rate of interest of six per cent because I wanted to be entirely reasonable. I think that is a low rate of interest. However, in my opinion I could not go out into the open market and get money at 6% to invest in a public utility of this kind, in a Telephone Plant. I base that statement upon the fact that I have had considerable experience in the last few years in endeavoring to secure bonds for Telephone Companies. I might cite one instance where we made a valuation for one company, and the property valuated something like \$140,000.00 or \$150,000.00. It was during the war period and the pole lines were overtaxed, and this particular plant had borrowed money here and there endeavoring to keep up and furnish the proper toll facilities, and he wanted to bond the property and assemble them all in one lump sum. He

tried to bond it for \$100,000.00, but the best offer he could get was \$85,000.00. That was on a valuation of \$140,000.00. I know of other instances where bond men told us that they

were not interested at all in a telephoen proposition on account of the rates, the rates were too low, inadequate to pay a reserve and allow a return. They could invest their money in first class real estate and farm loans and be perfectly safe. That is, the hazard would be greater in an investment of this kind than it would be where they had their money which they had to loan out in a safe and secured lien. I know that the Interstate Commerce Commission makes provision with reference to the inclusion of interest during construction. In figuring the interest on that I took the rate of 6%, that is the equivalent to 1/2 to 1 per cent per month. I then took the total construction period of 36 months, and one-half. of 36 equals 18 months. At 1/2 of 1 per cent per month would equal 9 per cent, as the total amount of interest. I got as the total amount for the item of interest during construction \$502,948.98. That is the total amount which I have included in my estimate as the interest which would have to be paid during the construction period.

We have covered all of the overhead expenses. On page 1-B my summary the next item of material there is equipment. The first item under equipment is Central office. Central Office equipment consists of the switchboards, the terminal frames, the testing apparatus and other electrical devices used in connection with the operation of the plant. I have included there as the cost of reproducing the central office equipment \$1,894,837.00. And as other equipment of central office \$17,167.00 giving a total equipment of \$1,912,004.00. That other equipment of central office consists of the furniture and fixtures, operators; chairs and all of the equipment in the office not attached to the circuit, or a part of the central office equipment.

In estimating the cost of reproducing that property I wrote a letter to the Western Electric Company at Chicago and furnished a list of the equipment and asked them to make a price for installing this equipment at this time. I am now speaking of central office

equipment which does not apply to the other equipment of the central office. The reason I wrote the Western Electric Company is because they are the Manufacturers of this equipment. They are engaged in selling this equipment to the public generally, they sell it to the Bell Telephone Company and also to independent companies and to anyone who wishes to purchase that particular property. When I ask them to make an estimate of what it would cost to reproduce that central office equipment I did not explain to them what the purpose of my request was, I just merely asked

what the purpose of my request was, I just merely asked them to furnish a contract price at which they would reproduce this equipment at this time. I did not write to any other Company in regard to Central Office equipment because there are no other companies that manufacture this identical equipment and that is the only place at which I could have gotten it. The price furnished to me was furnished to me as if I was an independent telephone man, or some man who wanted to reproduce an exchange of this kind. I sent them the quantities of property and asked them to submit a price, what it would cost to reproduce that property in Houston, installed complete, and then I adopted the figures which were given to me by them.

Cross-examination.

(Questions by Mr. Howard:)

The Western Electric Company is the only company that manufactures this particular equipment. However, other companies manufacture equipment that is used for the same purpose. But I was obtaining a price on this identical equipment. I presume that equipment furnished by the other companies would perform the functions reasonably well. In facing this proposition of reconstructing this plant, or reproducing this plant, I did it upon the assumption that I would be compelled to buy my material

of the Western Electric Company because that is the only place I could buy it. That is the only place, and I made my figure based upon that assumption, that I would have to go to them for the equipment. I did not inquire as to whether or not I could get substantially as good equipment from some other com-

pany, because I was pricing the identical equipment.

I am not qualified to say what relation exists between the Southwestern Telegraph & Telephone Company and the Western Electric Company. As to whether they are closely allied companies is all

hearsay on my part.

Redirect examination.

(Questions by Mr. J. D. Frank:)

The next item of property is "Subscribers' Station Equipment." That is divided into five classes, Apparatus Installations, PBX, Box

wires, Booths and Special Fittings. Those matters are treated in detail on the following pages, beginning on page 10.

The first item there is station apparatus which is the deskstand, wallset and so on. I have not included transmitters, receivers and induction coils for the reason that it was my understanding they are not owned by the Southwestern Telegraph & Telephone Company. I got my price on this material from the Western Electric Company. The total apparatus, as shown on page 1-B is \$362.295.00.

The next item on page 1-B is the installation. That is the cost of the inside wires and the labor in stalling the telephones. That amount I know from my experience in the business is the reasonable amount to allow. In other words, I have figured out the cost of making these installations and included them. That is the wiring and equipment that goes inside of the house other than the telephone sets themselves, that is the wiring and ground rods and labor necessary to place the telephones.

The next item here is PBX which is Private Branch Exchange. These small switchboards placed around in commercial houses and hotels where they have a number of telephones. I got my prices on that from the Western Electric Company who are also the Manufacturers of that particular equipment.

The next is the block wires. We built up the unit costs and arrived at this figure of \$7,649.00 as the cost to reproduce this class of plant. That appears on page 1-B.

The next item is Booths and Special Fittings. I got my prices on that from the western Electric Company. Counsel asked me a few minutes ago with reference to other equipment. If I got prices on other and different equipment than the equipment which is in use here, when I got those I would not have an estimate of the cost of reproducing this exchange, but would have an estimate of the cost of reproducing something else. What I am trying to do is to estimate the cost of reproducing this particular exchange.

I get as the total subscribers' station equipment \$539,240,00.

Cross-examination.

(Questions by Mr. Howard:)

I did not get prices from anybody else on any of these items because this equipment was all Western Electric Equipment, manufactured by them. However, there are concerns that manufacture similar equipment.

Redirect examination.

(Questions by Mr. J. D. Frank:)

When I say similar equipment I mean it is similar to the kind in use in Houston, but not the identical equipment.

3183 Cross-examination.

(Questions by Mr. Howard:)

I don't know whether it is as good equipment as this, or not. I wouldn't expect to find it any better, because I know the Western Electric Company is constantly experimenting to keep their equipment up to date. The other companies may also be constantly experimenting, but because of my connection with the Western Electric Company I know that to be a fact.

Redirect examination.

(Questions by Mr. J. D. Frank:)

There is no other Manufacturing Company in the United States as large as the Western Electric Company, not to my knowledge. I know that they do sell to Tom, Dick and Harry as well as the the Bell Telephone Company, they sell to the general public, anyone that cares to buy. They send out their catalogues to all telephone companies throughout the United States and actually sell material to the various telephone companies throughout the United States.

The next item of property is the distributing system. Under distributing system I have included poles, aerial cables, aerial wires, underground conduit main, underground conduit subsidiary,

underground cable main, underground cable subsidiary, and 3184 right of way. I have already told you how I got my prices on poles. I wrote to several supply houses and got their figures. I got my prices on aerial cable by writing three or four manufac-turers asking for quotations, and I was unable to get a quotation from anyone except the Western Electric Company. I mean that then others did not reply to my letters. I wrote the Standard Underground Cable Company, and they replied in this manner: "Your communication of November 4th addressed to our Home Office at Pittsburg has been referred here for attention. We note you have asked for prices based on the A. T. & T. specification. We are familiar with the A. T. & T. specifications only to the extent that specifications of the A. T. & T. or Bell properties are very occasionally submitted to us in connection with inquiries for cable to be purchased by properties allied with the A. T. & T. interests. It is sometimes possible for us to quote to those specifications as they are written, but more often it is necessary that we deviate from them in order to quote on our standard product. Aside from the fact that the list of sizes and descriptions submitted in your letter would entail a vast amount of clerical work for which we have no one available at this time, we believe that you can be much better served by submitting your request to the telephone cable manufacturer who is most familiar with the various A. T. & T. specifications

and is constantly building cable of those specifications for various interests. We are sure that they would be better able to give you accurate information than this company

would. Answering the closing paragraph of your letter, we would not attempt to forecast what the prices on telephone cable would be a year hence, or even three months. Prices on telephone cable as on any other manufactured product depend almost entirely upon the fluctuations in the cost of materials, labor and transportation. These factors of cost are more disturbed and erratic now than they ever have been, and any prediction as to what the cost of any product would be a year hence would be the merest guess work so that one person's guess would be perhaps as good as another."

I was unable to get quotations from these people. And I have also written to the Stromberg-Carlson Telephone Manufacturing

Company and they replied:

"Replying to your letter of November 5th, requesting the present market price on various sizes of paper insulated lead encased tele-

phone cable.

"As we do not manufacture this class of cable, we respectfully refer you to the American Electrical Works, Phillipsdale, R. I., whom we know will be glad to furnish you with the information you desire.

"Regretting our inability to serve you at this time, we remain."

3186 I also wrote the American Electrical Works at Phillipsdale, Rhode Island, and they replied:

"We beg to acknowledge receipt of your esteemed favor of November 5th, and regretting exceedingly that it is impossible for us to comply with your request in this instance owing to the changing values of raw materials and our manufacturing costs through which we are passing at this time our cost department is simply swamped with work. It would be impossible for us to even start work upon this under two month-.

"We would like to be accom-odating but the above is the situation and we cannot afford to delay our regular cost work which is necessary in our business daily, and inasmuch as you state you desire prices by November 15th, it is utterly impossible for us to take care

of you."

Then I wrote the Western Electric Company and they furnished me the prices on the cable.

"Q. Take up these other items, Mr. Topping, and tell us what prices you have used on them. Take underground conduit Main and subsidiary, and cable Main and Subsidiary, and tell us where

you got your prices on them."

"A. In the underground plant I obtained prices on the vitrified clay conduit from the Clay Production Company of Brazil, Indiana. On the fibre conduit, from the Fibre Conduit Company, of Orangeburg, New York. On the Brick used in the underground work, from Barthold and Casey, at Houston, Texas. On Manhole

from Barthold and Casey, at Houston, Texas. On Manhole 3187 castings from the Lloyd Metal Company, Houston, Texas. On Iron pipes, from the F. W. Heitmann Company, Houston, Texas, and on cement and sand from W. L. Macatee, and on Gravel

from the Texas Gravel Company, both of Houston, Texas. Then I applied my prices to build up my unit cost, as I have heretofore explained, and arrived at the cost of reproducing these various

items of property.

The last item I have down there is right of way, \$32,565.00. It is my practice to allow \$1.00 per station as the right of way charge, and that is based upon my experience and knowledge of the business. I know that there are problems coming up that cannot be charged to any other class of plant, and I usually set them out under this heading of right of way. It has been my experience and observation when engaged in the telephone business that the expense in connection with the right of ways will average \$1.00 per station. In reproducing a plant of this size, it would be necessary to have someone, or one or more persons to look after right of way matters, to see property owners and get permits, cables would have to be attached to buildings, and you would have no authority to attach the cable to the buildings without the permit of the owners, nor would I, without his permission as it would be expensive to remove them in the event he objected, and in order to play safe I would secure his permission. Sometimes it is necessary to pay for the privilege

3188 of putting it on private property. And I understand in Houston the City requires the telephone company to take out a pole permit, for which a charge of 25 cents per pole is made for each pole set, and in addition to that a charge of 50 cents for each 500 trench feet of conduit. I get as the total cost of reproducing the

distributing system, \$3,527,340.00.

Cross-examination.

(Questions by Mr. Howard:)

"Q. Mr. Topping, you read off a while ago a list of six or eight material men, and as I understood you, aside from the aerial cable, you sought bids from only one person or firm. On aerial cable you had several letters."

"A. We asked for other bids. For example, on iron pipe we asked the N. O. Nelson Company to furnish prices on iron pipe, and they replied in this manner: "We are not in position——"

"Q. (Interrupting.) This is just a small branch of the N. O.

Nelson Comoany?"

"A. I merely understood they handled iron pipe and wrote to them."

I did not tell them I was going to build a telephone exchange and would need a lot of pipe, I merely asked for prices on 3189 pipe. I did not ask for prices on 100 feet or 1,000 feet. I

did not go to anybody except the Texas Gravel Company for gravel, nor to anybody else except the Macatee Company for Cement. I think we went to someone else besides the Lloyd Metal Works for castings. I did not tell anyone I was going to build a big telephone exchange in Houston, but I told them that I would like to have prices on this material for use at Houston. I didn't tell them how much or how little I would need. Yes, I regard that

as a good way to get prices when I am in earnest on a problem of constructing a property.

Redirect examination.

(Questions by Mr. J. D. Frank:)

I am familiar with the character of other Telephone Companies in comparison with the Telephone plants which are constructed by the Bell Telephone Company. They are not, generally speaking, better telephone plants than the plants erected by the Bell Telephone Company, but as a matter of fact, the plants erected by the Bell Telephone Company in nine cases out of ten are more efficient than the ones constructed by independent companies.

The next item on page 1-C is General Equipment. The 3190 first item under General Equipment is furniture and fixtures,

local. I have estimated as the cost of reproducing the furniture and fixtures, \$27,788.00. In arriving at that I took the original cost of the furniture and fixtures and attempted to price them. and I found that the manufacturers of a large part of the desks and so forth have since gone out of business and it would be practically impossible to get accurate information. I then made a study to determine how much furniture and fixtures have advanced, and I found it ranged from 50 to 100%, in some cases more, on practically all of the items except typewriters and adding machines, and some of the standard equipment. I used the price of the typewriters and adding machines and to the balance of the furniture and fixtures I added approximately 50 per cent. That was the only way that I could get a fair estimate on it. I merely took 50% of the local furniture and fixtures. There are furniture and fixtures located in Dallas from which this property is supervised by certain officials, and if those officials were located in Houston I have estimated that it would require 50% more furniture. That is, if all the operating officials connected with the Company had their office in Houston they would have to have additional furniture. I used the same prices on that, the same identical prices that I used on the local furniture and fixtures. I merely took 50% of the local furniture and

fixtures. I do not mean that if all the general officers were located in Houston, but those that would be necessary in the operation of the Houston property. Just those officials who

would necessarily be used in supervising the property.

The next item is "Tools". I have figured for tools \$10,591. That is my estimate of the reproduction cost of the tools. I did not take the original cost and add something to that but I figured out the reproduction cost of the tools based on present day prices.

The next item I have there is motor vehicles and I find as the cost of reproducing the motor vehicles \$12,467.00. That is the cost of the vehicles as furnished by the Telephone Company. In other words, I took the original cost on that. I took the original cost because the information that I had at hand was not applied as

to the years the cars were purchased, and it would have been necessary to have gotten complete information as to the year and the model of the cars, so I took the original cost on that, it being a small item.

I get as the total general equipment \$65,739.00. I get as the total physical property \$6,817,753.00.

The next item that I have here on page 1-C of my appraisal is "Working Capital." It includes supplies and cash. I have estimated that amount to be 4%, or \$272,710.00. That is 4% of the estimated cost of reproducing the total physical property.

192 of the estimated cost of reproducing the total physical prop-

erty.

Working capital covers cash on hand necessary in the payment of bills, and other expenditures that are incurred, and the supplies represent the stock on hand which is necessary in the conduct of the business to keep the plant in operation. It would not always be possible to obtain items on short notice and it is necessary to maintain a stock so that prompt replacement can be made in case of storm or things of that kind. That covers not only the cash which is re-

quired to run the business, but also the supplies.

The reason I have taken 4% is because from my experience, working capital usually works out around 4% and I considered that, after considering all the facts in this case, to be a reasonable percentage. It is customary to make an allowance of that kind in these valuation cases for supplies and cash. I know the percentage that is usually allowed, of the total physical property, and it runs from 3 to 7% in telephone cases and a list that I have of Telephone cases tried before Public Service Commission, it ranged from 3 to 7% and the weighted average for the fourteen properties amount to $4\frac{1}{2}$ %.

Cross-examination

3193 (Questions by Mr. Howard:)

I got that list of telephone cases from my office in Kansas City. I don't just remember where I did get it, but I don't think I got it from a Telephone Company. It may be possible. We have a lot of information coming in there. We get these P. U. R. reports constantly, and we tabulate information from those reports. The Telephone Company did not furnish me its Bank balance for any particular day during the time I was making this estimate. I began the work on it on the first of November and completed it about the 15th of December. They did not show me how much money they had in the Bank for carrying on the business that day. They asked me to furnish this value based on my knowledge and experience of the business. I did not go into the field of conjectures and estimates because I am familiar with the amounts that have been allowed before.

"Q. But I am not asking what the commissions have allowed, I am asking you why you take and why your valuation engineers, and the Commissions for that matter, go off into the field of conjecture

about matters that are susceptible of being exactly determined. Did they tell you what supplies they had on hand during the time you made this estimate of reproduction?"

"A. Why, just a few items."

3194 They told me just a few items but the items did not consist of the amount that would be required to handle a property of this size. Possibly they could have furnished me that and possibly they could have furnished me their bank balance but what I am endeavoring to do is to determine an independent value of this property. I am not trying to determine something that does not exist, but I am trying to determine a fact. I am trying to determine, in my opinion, the value of this property.

"Q. All right, now, you have gone and determined a lot of it by estimating what it would cost to reproduce it, then you have gotten that far along, we understand that, and then after you get that far along, there is a certain definite property that they have on hand, why do you go out and figure and estimate and try to find out what other Commissions have allowed, when all you have got to do is to look at the property and appraise it? What is the sense of it?" I am trying to get your idea now, as a practical engineer. Why do you resort to that indirectly when you have got a direct and simple method of telling us just how much supplies and cash these people had investigated in this plant, at that time?"

"A. I wanted to determine in my opinion what is the value of this property. The Telephone company may have had an

3195 excess of supplies."

"Q. Oh, I understand, you have told us two or three times that you reproduced it according to this inventory and put in a little or overhead charges and omissions and contingencies; we have got that all in and gotten this plant up to nearly eight million dollars. We'll let that go, but that you are trying to reproduce this plant, the value of their properties, now in addition to those things that have gone into the plant, we all understand they have got to have something to run their business and what they are entitled to is whatever they have got in this business. Why didn't you find that out? Why didn't you tell us about that instead of telling us about this conjecture?"

"A. They may have had too many supplies on hand.

"Q. Well, if they had them on hand, they would be in service here, wouldn't they, and be a part of the plant?"

"A. What I was trying to determine was what was the fair value

of the property."

"Q. Yes, and I am asking you this simple question. Instead of going around, these methods of indirection and conjecture about it, why didn't you say, what have you got on hand here? What are you using? How much money have you got in the Bank to handle

the pay roll and things like that?"
"A. Because I know that this measure would give me a reasonable

value."
3196 I didn't know that the other measure would.

The other measure would not give the exact value because they may have had too many supplies on hand or had too small a quantity of supplies on hand. They couldn't run very well if they had too small a quantity but they may have orders in for other materials, but they had not arrived yet. I have not undertaken to determine how much should be on hand for supplies as distinguished from the pay-roll, but I just used the flat four per cent. That is the general practice among reputable engineers.

"Q. And the more value you get in determining the value of the plant, the more that will fluctuate, if you happen to get a value of eight million dollars on it instead of six million five hundred thousand, the way Mr. Hoag did, why your amount for supplies and cash on hand would vary?"

"A. It would vary, yes sir?"

"Q. Did you ever give any thought to the idea of how the supplies and working capital of a utility that collects its money in advance compared with one that collects its money at the end of the month?"

"A. Well, I haven't given any consideration to that."

I don't know that telephone companies collect a great part of their money in advance. I have been in the Telephone business a long time. But I don't know about local conditions with reference 3197 to that.

Mr. J. D. Frank: Some of them never do pay their bills. You are not going to undertake to prove in this case that we collect all of

our bills in advance?

Mr. Howard: No, but you collect enough in advance that you don't have to keep on hand a fictitious amount for working capital, and my suggestion is you don't do it, or you would come in here and show us what it was.

Mr. J. D. Frank: Well, we'll show you that by our accountants.

There is no fictitious amount in here at all.

I don't know how much the pay-roll of the Company is, I did not inquire into that. I have made an entirely independent estimate. I do not think it would be more proper to base the percentage upon the monthly earnings than upon the cost of the plant.

Redirect examination.

(Questions by Mr. J. D. Frank:)

What I have done is to make an estimate of the amount of working capital that would be required in an exchange of this size, with the number of subscribers that it has. I have assumed that this would

be a fair and reasonable allowance. I am basing that upon 3198 what has been done in other cases. I know that in a number of cases the average allowance for working capital is $4\frac{1}{2}\%$ of the total reproduction cost new.

Mr. Howard: I suggest, if you are putting the books in evidence, you do that without going over that and proving it up by the witness.

Mr. Duls: The Accounts will do that, Judge.

Mr. J. D. Frank: We are going to give you the exact amount, but

it is customary for engineers to do this.

Mr. Duls: You see, Mr. Topping made his estimates independently of the company. We didn't know a thing that he was doing. He was just asked to value the property.

The Telephone Company did not instruct me how I was to make a valuation of this property. They merely instructed me to determine in my own way the value of the Houston property and that is what I have done in this case, absolutely. I have used my own judgment and attempted to make a valuation of the property.

Mr. Howard: They told you they had a rate hearing on down

here, didn't they?

Mr. J. D. Frank: Why certainly, he knew that was why he 3199 was employed.

Mr. Howard: What is that?

Mr. J. D. Frank: Why, certainly. Mr. Howard: Well, I am asking him.

They told me they had a rate hearing on down here and that they wanted to use my report as evidence in the case. I knew that. They furnished me the Hoag inventory and told me they wanted prices ap-

plied to that. They furnished me the plant units.

With reference to the manner in which I secured quotations as to the prices of various items of material, on some of that property I secured quotations on carload lots, that is, on the major items. Carload prices are considered wholesale prices. On some of the property I did not get wholesale prices, but I used catalogue prices less the cash I have not figured out what per cent of the entire property that I have secured prices on the wholesale basis on and on what per cent of the prices without reference to quantity, but I would estimate that of the material value, that 80% has been figured in carload lots and the remaining 20% I figured without reference to the quan-

"Q. Would it have made any material difference with refertity 3200 ence to that remaining 20% if you had gotten prices on wholesale quantities instead of taking it without reference to the quantity?"

Mr. Howard: He didn't do it and I don't see how he could answer

Mr. D. A. Frank: Well, he could answer that question.

Mr. Howard: I don't see how he could, until he knew what he could have gotten.

Mr. D. A. Frank: Well, you could answer if you bought stamps down here in the Post Office w-ether you got it at wholesale or retail. Mr. Howard: Well, but that's not sand and gravel

Mr. D. A. Frank: Well, that's the way with sand and gravel.

Mr. J. D. Frank: That is what I want to bring out.

Mr. Howard: I don't think people would agree with you.

Mr. D. A. Frank: Well, the mere fact that you don't agree with it is no reason why it is not proper.

3201Mr. Howard: He says he hasn't done it, he wouldn't know until he tried to do it, that's the idea.

Mr. D. A. Frank: If he had done it before, he would know.

I would like to explain in connection with that on that balance of 20% in taking the catalogue price, we took the quantity price, but that didn't mean carload price. For example, if the prices are quoted in 500 lots or less, 500 to a thousand, or a thousand and over, we took the thousand and over price. I took the largest quantity price in the catalogue but that may not have been the carload price. There would be a great many items of material on which I did not have the carload price. I got the wholesale quantity prices as to the majority of the items constituting the plant here, all of the major items. If I had gotten wholesale prices as to the remaining 20% of the items there, in my opinion it would have made no appreciable difference whatever. It would have been something less than 1%, I would estimate. That is, it would be 1% of the 20%, or the items on which I did not get carload prices.

Page 1-C of my appraisal shows the total physical property, including the working capital, \$7,090,463.00. The next item

that I have down there is Cost of Establishing business. the cost of establishing business I have taken 20%, or \$1,350,603.00. That is 25% of the reproduction cost new of the physical property, not including general equipment or working capital. I got that 20% from my experience, from studies that I have made in other plants similar to this I know that it would run around 20%. The allowance that engineers make usually in estimating the cost of establishing business varies from 10 to 45% That 45% I think was a gas case or waterworks, but I am not sure. I have included that item because the value, the figure that I have shown, total physical property, including working capital, is not all of the value of the plant. There are other expenses that are incurred. I have endeavored to reach an estimate that would represent what it would cost to reproduce the physical property and attach the business. The property would be of no service if it didn't have subscribers connected. It costs additional money over and above what I have considered in the value of the physical property to establish this service. I did not attempt to work out this cost of establishing business but I just took this percentage.

If I were to come into Houston, and there was no telephone plant in existence, the first thing that I would do would be to employ competent lawyers to examine the statutes of the State to determine

whether there were any laws that would be adverse to the industry. After I had determined that, I would employ a competent commercial engineer to make a study of the proposition, to canvass the town to determine approximately how many telephones I could secure, to determine whether or not this class of service would be one that would be patronized by the public and used by the public and after I had satisfied myself in that regard, I would ask the City of Houston for a franchise. It would probably take about one year's time to make these preliminary studies and arrangements. During the construction period, there would be items of maintenance and depreciation, your building would be completed, and you would have to have

electric lights and elevators and janitor service in the building. You would have the first cost of issuing the directory. You would have the cost of developing and training a personnel. By that I mean you would have to have employees that were competent to handle various positions in the plant. You would have to have operators, those operators would have to be schooled and instructed and taught how to operate the board. You would have to develop supervisors and chief operators. You would have to train wire chiefs and plant men, cable men, linemen, and you would have advertising, a certain amount of publicity. It costs money to build up records in the various departments, it costs money to sell the service. Undoubtedly a large number of subscribers would come to the exchange and apply for the

3204 service without the necessity of going out and soliciting business from them, undoubtedly they would, but if they did there would be a cost attached to connecting the business. There would be commercial employees who would have to take the subscribers' contracts, explain to them the rates, and determine the class of equipment that the subscriber desired installed. There is an expense of entering the contracts on the records. From this contract is written an order, which goes to the three departments, plant, traffic and commercial, and that order is made in several copies. The Plant Department would arrange for the line facilities, one man in the plant department would assign the cable pair, another set of men would run the drop and install the telephone, and the traffic department would assign the number. Those transactions are all matters of record. I know that the telephone company is actually spending money for those purposes all the time. This is not some intangible thing that I add to the value of this property. In other words, I have attempted to estimate the cost of reproducing this business just as I estimated the cost of reproducing the physical property itself. This is an expense that I would have in addition to the cost of reconstructing the physical part of the plant itself. I have estimated that it would cost something to build up the organization, an organization of this kind. I could not go out and get employees from any and everywhere

to run this business, they would have to be qualified. I would have to take all of these employees and train them and of course, I would have to pay them while I was training them. connection with my consideration of the cost of establishing business, I have not proceeded upon the theory that this business would pay from the first day that I opened the business for serving the purpose, I would assume if I worked it out in detail that it would require about two years development period. I mean I would assume that I could reasonably expect to have 50% of the present number of stations connected at the time the plant was opened for service and that I would connect the balance, or other 50%, within the development period of two years. It is proper to consider operating deficits during that two years development period, that is, it is proper to consider the difference between the expense and the amount of income. That is due to the fact that you haven't the full number of subscribers there, the revenue or income would be insufficient to take care of the expense during that period of time.

Cross-examination.

(Questions by Mr. Howard:)

"Q. Mr. Topping, I believe the first thing we would do when we started to distribute this million, three hundred and fifty thousand dollars, is to hire some competent lawyers. What did you

3206 say you would have them do for you?"

"A. The first thing I would have them do would be to examine the statute books of the State to see whether or not there would be any laws that would be adverse to the investment of the State of Texas."

"Q. The Telephone Investment?"

"A. Yes, sir."
"Q. Wouldn't you naturally suppose under the existing conditions where the telephones have been operating here for twenty years and seem to be getting on nicely, others coming in, that you would not anticipate any great trouble about these laws when you would operate telephones?"

"A. I would want to satisfy myself that that was a fact."

"Q. All right, what else would the lawyers do for you? I am trying to get an idea now about what is proper to attorneys' fees."

"A. These lawyers would assist when they draw up a draft on a franchise and attend the council meetings."

"Q. Oh, yes."

"A. And assist in securing a franchise."

"Q. Did you investigate local conditions about what it would be necessary to do in that regard?"

"A. I know the usual steps of procedure."

"Q. Now, how much did you figure you were going to pay these lawyers?"

"A. I didn't figure."
"Q. You didn't figure that at all?"
"A. No, sir." 3207

- "Q. You don't know anything about then how much your lawyer was going to be paid?"
 - "A. No, sir, I haven't figured that out in detail at all. "Q. Well, let's say twenty-five or fifty thousand dollars?"

"A. I haven't figured it out."

"Q. But you just think it is worth something, but you don't know what?"

"A. There is an expense connected with it."

"Q. Notwithstanding that the telephone business has been going on and this plant has been operating here for a long time, you didn't go over to the City Hall where they have a competent young man over there that they pay the magnificent sum of Two Hundred Dollars a month, that prepares these franchises; they all run along about the same?"

"A. No, sir, I didn't take into consideration."

"Q. One is about a copy of the other and they all run along about the same, you didn't take that into consideration at all?"

"A. No, sir, I know that it would consume time and money in obtaining a franchise."

"Q. Would consume time and money?"

"A. Yes, sir."

"Q. You didn't know that you could come down here before business commissioners like ours and present your own fran-

chise and that the services of a lawyer wouldn't be necessary for the machinery at all, you didn't find that out, did you?"

"A. I wouldn't present a franchise without it having been passed by the lawyers."

"Q. You would have one passed on by the lawyers?"

"A. Yes, sir."

"Q. But the one that would be finally entered would be one that the City lawyers would approve, wouldn't it?"

"A. Well, it might or might not."

"Q. It wouldn't be very apt to get in there until the city lawyers approved it, would it? Now, another thing, we have already had one set of lawyers in this thing. Now, I thought they were doing some of the work of some kind, what are they going to do, just draw the \$7,500.00 a year?"

"A. Those are the legal services during the construction period of three years. This service that I referred to is incurred in the first

year."

"Q. Didn't you mention getting the franchise this morning would be one of the things that these lawyers did, and finding out the laws would be one of the valuable services these attorneys would render for you?"

"A. No, I was speaking of the preliminary year."

"Q. Why not have it all done at one time?"

"A. In explaining my exhibit, I was explaining why I have shown a four year period on the exhibit. One year, the first year, was the preliminary year or the year in which these matters would be taken care of. The other years are the

construction period."

"Q. Now, you are speaking from your experience. What has been your experience in regard to what lawyers charge you for

doing all this work?"

"A. Well, whenever they have charged me personally, they have

charged me plenty."

"Q. Well then, you don't know anything about the services of these lwayers or what you are going to pay them. Well then, the next thing you are going to get this competent commercial engineer. What is he going to do for you?"

"A. He is going to make a preliminary study of the situation."

"Q. How long is that going to take him?"
"A. That would consume several months."

"Q. Well, about how many months?"

"A. Well, he ought to complete his work in six months."
"Q. Well, what you are you going to pay him a month?"

"A. I haven't attempted to-"

"Q. (Interrupting.) You don't know what those men are worth.

You have told us now, you see you are coming in here, Mr. Topping, and saying that the people of this community are going to pay you upon these investments and we want to learn something about them. Now, haven't you investigated enough to know about how much that kind of an engineer knows?"

3210 "A. I could work out that entire cost of establishing business in detail. I have worked it out a number of times."

"Q. I don't care for you to demonstrate your knowledge, but I wanted to see upon what basis you have set up these expenses in the past. It is what you have done in the past that is interesting us now; what you have done to familiarize yourself with the value of that commercial engineer; you have any idea? Approximate it."

"A. I haven't attempted to figure it out in this case."

"Q. A thousand dollars a month would be good enough."

Mr. D. A. Frank: He doesn't mean one man.

"A. Well, I mean by that, one man and his organization."

"Q. Well, how many men in his organization?"

"A. I haven't figured it out." "Q. Have you any idea?"

"A. What they do, an engineering study would mean they they would go out and spot the houses and divide them up into various classes.

"Q. It wouldn't take much of an engineer to do that, would it?" "A. Well, the field men might not be of as high a type as the commercial engineer, but it would take a man of ordinary intelli-

gence.

3211 "Q. Well, have you any vague idea or appr-ximately close idea about how much—what that organization exists of?"

"A. No, I haven't worked it out in thise case."

"Q. Haven't worked it out at all?"

"A. No, sir."

"Q. Well, suppose we would take a guess, would \$50,000.00 be a pretty good amount for that work?"

"A. I wouldn't care to answer it because I haven't worked it out

in detail."

"Q. Or these Lawyers' fees, suppose you get \$50,000.00 for these lawvers?" How about this franchise, what is that going to cost vou?"

"A. I haven't attempted to analyze that."

"Q. You haven't attempted to analyze that at all?" "A. I know that it would cost a sum of money."

"Q. How much?"
"A. Well, I don't know."

"Q. An idea of whether it would cost Two hundred and Fifty Dollars?"

"A. I haven't figured that out."

"Q. Or twenty-five thousand dollars?"

"A. I haven't figured that out."

"Q. Well, let's talk about this maintenance. Can you give us any light on that? That is No. 4 on the set-up?"

"A. There would be maintenance on the plant during the development and construction period."

"Q. About what would that be?"

3212 "A. I haven't figured it out." "Q. Don't know anything about it?"

"A. No. sir, except I know there would be an expense there."

"Q. All right, then the next thing that seems to be of first importance is printing the directory, what is that going to cost you? "A. I haven't figured it out."

"Q. Any remote idea at all about what it would cost?"

"A. I haven't figured it out in this case. I know there is an ex-

pense incident to that first directory."

"Q. Well, we are dealing now with that million, three hundred and fifty thousand dollars and I would kind of like to get it analyzed. That probably would cost three or four thousand dollars?"

"A. I have no idea."

"Q. You couldn't even approximate whether that would cover it or not?"

"A. I haven't worked it out in detail."

"Q. Let's see, the next thing is training girls. You can tell about how many girls it would take to operate this plant, can't you. You have been in the telephone business a long time, Mr. Topping. Now, we want to know approximately about how many girls you are going to use to operate this plant?"

"A. I don't know but I would estimate there is something like five

or six hundred girls."

"Q. All right, we have got something to go on. How 3213 much is it going to take to train a girl?"

"A. I haven't attempted to figure it out."

"Q. You haven't attempted to figure that out at all?"
"A. No, sir."

"Q. You don't know whether it would take ten, fifteen, or twentyfive or one hundred dollars to train a girl?'

"A. I haven't attempted to figure it out at all."

"Q. Well, before you can figure, we have got to have some fundamental knowledge of what we are dealing with, and you are a valuation engineer?"

"A. I have worked up the cost of establishing business in other cases and I am familiar with all the expenses incurred and I know what has been allowed in other cases and plants similar to this."

"Q. I am not speaking about what has been allowed, I am speaking about the cost of it, I am asking you as a valuation engineer familiar with the telephone business, you have come here to tell us now about training girls and printing directories and employing girls, something about the value of it, and you can't tell us how much it would cost to train one girl?"

"A. I haven't figured it out."

"Q. Or how much to train five hundred. Would it cost as much to train one girl or would it cost as much to train five hundred girls proportionately as it would one girl?" What is your answer?"

"A. Why, it would be my judgment that it would cost 3214 more to train one girl than it would if you were training a large number of girls per operator."

"Q. Do you have any idea how much more?"
"A. No."

"Q. All right. What advertising are you going to do?" "A. Why, you have advertising in the newspapers."

"Q. For what?"

"A. Various things. That you were building your telephone plant."

"Q. Everybody in the City would know that if you were build-

ing a big telephone plant here, wouldn't they?"

"A. They probably would."

"Q. Well then, why would you put it in the paper and pay advertising rates on it?"

"A. You would have announcements in the newspapers."

"Q. For what, what announcements?"

"A. Matters of interest, a matter of education."

"Q. Who would it educate and how?"

"A. It would educate the public."

"Q. What are you going to tell the public? Let's see whether you are going to educate them, or not?"

"A. Why, you would advertise like any other manufacturer of

goods. You would advertise your company."

"Q. Keep an ad running in the paper all the time, that we are going to build a telephone plant and we are going to give service, is that what you mean?'

3215 Mr. D. A. Frank: Absolutely.

"Q. (continued). Well, everybody would know that, everybody would know that you were going to build a plant here and are going to attach subscribers and are going to charge for it when you got through, you are putting substantial things in here upon which you are going to attach a return. Now, let's know what you are going to do?"

"A. Why, any manufacturer advertises his products."

"Q. I know that a man that is selling shoes does some advertising and I know a man that is selling patent medicines does a good deal more, but let's get down to telephone companies where there is just one and everybody in town knows it and knows that they are going to have a new telephone company; now, what are you going to advertise and what are you going to tell them when you advertise?"

"A. You would run an educational campaign."

"Q. To educate who and what?"
"A. As to the service."

"Q. Did you investigate conditions here, Mr. Topping, to know whether the people are familiar with the telephone service or not? You are building this plant up here in Houston with 160,000 people, we are people-

"A. (Interrupting.) Yes, sir."

"Q. Did you make any study to determine whether or not these

people were bright or broke on the question of telephone service?"

3216

"A. No, sir."
"Q. You didn't make any investigation about that?"

"A. No, sir.'

"Q. Well, then, let's assume you are going to build us a plant here, let's assume that you are building a plant where there is already one in existence, or you can assume that this one had been burned down or destroyed one way or the other and the people without telephone service. Then in this community you build this new plant where as is the case here, everybody knows how to use a telephone, they are not afraid of them any more at all. Not everybody that wants a telephone can get one, but they are clamoring for telephone service, they are trying to get 'phones, the Company isn't going out trying to get them to attach the business or to subscribe but they are imploring the company to give them 'phone service. Now, you build a plant like this in that sort of a community. What advertising are you going to have?"

"A. You would have some expense in that even."

"Q. Well, tell us what the educational expenses are now, you were talking about education, how are you going to educate them? To what? "A. There would be some people that wouldn't come to your

office."

"Q. Wouldn't come?"

"A. No, sir, there would be certain classes of subscribers that wouldn't come. If you were going to reproduce the Houston plant to-day, I would venture an opinion that you

would have to solicit a certain number of subscribers."

"Q. Why would you have to do that? They know the value of it, it is established; their 'phones are here now, and they are paying for it very much and they won't give them up to let people that want to use them have them. Now, why would you have to solicit that kind of business?"

"A. Well, I am assuming that Houston is no different from other

localities and in other localities these expenses have occurred."

"Q. Occurred when, in the early days?" "A. In the development of the business."

"Q. Way back in the long ago people were afraid to take hold of them, afraid they would have a kick-back, but we have passed that stage long ago. There is not anybody afraid to pick up a receiver?

"A. But there are certain people that are still slow about taking

telephone service."

"Q. But here you have got a City here with 27 thousand telephone subscribers, we have got I don't know how many more that are trying to get service and if this was discontinued to-day, this service, and then it was afterwards restored, they would still be anx-

ious to have them, now, what sort of campaign would you have to carry on?" I am talking about any material amount. I am not talking about putting an announcement in the

paper."

"A. You would have certain expenses if they come to your office." "Q. Well, we'll get down to that. We would just eliminate that advertising expense?"

"A. No, sir, there would be some advertising."

"Q. What is it?"

"A. I haven't figured it out."

"Q. I am asking you the amount in dollars and cents, I am asking you what the nature of the advertising would be.'

"A. And I have attempted to explain it several times, that it would

be along educational lines."

"Q. But that was before I explained to you that these people had been educated up to the point where they wanted more telephone service than they can get, so when you get a man through college, you don't send him through college again. He might could learn more but you don't send him over that same route. So under these conditions, you have no educational campaign, so far as the people are concerned?"

"A. I should say you would."
"Q. What is it? That's what I want to know."
"A. It would be publicity work, announcements.

"Q. What announcements?"

"A. Announcement of the progress of your work and when 3219 the subscribers could expect service and when the plant would be open for service and when the directories would be ready and suggesting that the public arrange for the service so they would get their names in the first directory.'

"Q. Now, about selling the service?"

"A. It would cost money to sell the service."

"Q. In what way?"

"A. In the way that you would have to have people at your counters to attend to the public, even if they came to your office."

"Q. All right. I agree with you there. Let's say we want to spend some of this money to get some little idea about it. About how large a book-keeping force would that take?"

"A. I haven't made a study in this case, I have merely used

a flat percentage."

"Q. Just used a percentage that you have gotten from some other place?"

"A. That I know from my experience and in the work, is appli-

cable to the Houston plant.'

"Q. And yet you can't tell us anything about the cost or any of the items that go to make up this grand total?"

A. I could work it out, but I haven't worked it out."

"Q. You could work it out, but you are going to adopt the proceedure of giving us the fact and then going out and finding out whether it is correct or not?"

"A. That is the percentage that has been allowed in other

3220 cases.'

"Q. Mr. Topping, is that all you have got to say to us upon this item of one million three hundred and fifty thousand dollars of going value?"

"A. That is, the 20% is a fair and reasonable allowance."

"Q. Although you can't tell us anything about the cost of any of the items? I am not confining you to any one, I am asking you about—to pick out any one of the things that you say go to make up this million three hundred and fifty thousand dollars and tell us what you paid, what you paid for it?"

"A. I have told you practically all the operations that enter into it, but I have not attempted to valuate, or place a sum for each

of the individual operations. That I can do.

"Q. Well, you have told us that it would take at least one year to attach 50% of this business, and now I am asking you again if in making that statement, you were familiar with the proposition that this is a community that is educated up and anxious for telephone service and that they are going to apply for it and are applying for it now to a greater degree than they can be served?"

"A. Now, I have taken into consideration the fact that there would be a certain number of subscribers that would come to your office."

- "Q. Is there any reason you can give me why they wouldn't call come, because they have all demonstrated that they want this service and are accustomed to it and won't relinquish it?"
- "A. Even if they did come, there would be come cost."

 "Q. I understand. Now, we are getting down to something substantial. That would be getting out your contracts and the cost of getting out your subscribers and putting them on the books?"
- "A. Yes, you would have to have a commercial organization."

 "Q. Now, can you give us some idea of how much that organization would cost?"

"A. No, sir, I haven't worked it out at all."

"Q. So then, on this one million, three hundred and fifty thousand dollars, we have got nothing to stand on but a lot or generalities."

"A. No, I would say—"
"Q. That is all, Mr. Topping."

Redirect examination.

(Questions by Mr. J. D. Frank:)

"Q. Mr. Topping, Mr. Howard has spoken very lightly of the proposition of going down to the City Hall and securing a franchise in a few minutes from a handsome young man down there who is paid \$200.00 a month for the purpose of dishing out these franchises to public utilities. From your experience in the Telephone

business, do you know it to be a fact that sometimes the company has to dicker and barter with these City Councils for two or three years before they can secure a franchise?"

"A. I know it takes considerable time, sometimes."

It is not such an easy matter as Mr. Howard has painted it to be, I have never run across such a case in my experience. Counsel has also referred to advertising and said that everyone in the City knew that the telephone plant is here. I presume everyone knows that the large department stores like Levy Brothers and the Main Dry

Goods companies are located in Houston also. Yet, those large companies advertise just the same. It is also true that street railway companies where they are the only company operating in a particular town do considerable advertising. It is also true of light companies and railroad companies and such utilities as that. The cost of attaching business is not the only thing that enters into the cost of establishing business, that is only one of the few numerous items. That is a small item of the total expense. If the Houston plant was blotted out entirely and I started in to reproduce it in three years, I would not expect to get back all of the original subscribers that I had at the time the plant was blotted out of existence, not at the beginning of the operation. As a matter of fact I would get back but very few of the subscribers, I would estimate about 50%. People are changing, moving about, and leaving the City and new ones coming in all the time.

3223 I have considered the cost of reproducing this property new. I have also made an investigation for the purpose of determining the per cent condition of the physical property constituting the Houston Telephone Plant at the present time and have

prepared an exhibit with reference to that.

Mr. J. D. Frank: This exhibit, which is headed "Reproduction cost new, less depreciation," is offered in evidence as Plaintiff's exhibit No. 34."

(The document was thereupon received in evidence and marked Plaintiff's Exhibit No. 34, and said Plaintiff's Exhibit No. 34 is transmitted herewith in Exhibit file.)

For the purpose of determining the per cent condition of the physical property constituting the Houston Telephone Plant I made a trip over Houston inspecting the property, inspecting the poles and cables, the wireless and various parts of the plant. On this inspection, I selected various portions of the City and in some cases clumb the poles to determine the condition of the cables and the condition of the wires and looked around the poles, and probably covered 75% of the outside plant. It took me somewhere around eight or ten days to make this investigation, inspecting the property for the purpose of determining the condition of it. I spent that time in examining the various parts of the plant. I covered about

75% of the poles, in other words, I saw about 75% of the 3224 poles in Houston, and in going over the pole plant, I had an instrument and would dig around the base of the pole to determine the condition and I would climb poles to inspect the condition of the cable, the messenger strand, and the wires and drops. I visited the buildings and inspected them from the basement by floors. I also inspected parts of all of the plant for the

purpose of determining its condition.

This exhibit, in the left hand column is indicated the class of plant, the first column headed "Reproduction cost without overhead," the next column is headed "Reproduction cost including overhead," the next column is headed "Net salvage value in per

cent," the next column "Non-depreciable property," the next column "Depreciable property," and the next column "Per cent condition," and the last column "Reproduction cost less depreciation."

Take for example, the item of apparatus, that is under "Subscribers' Station Equipment." The reproduction cost of the apparatus including overhead is \$362,295.00. The net salvage value in per cent is 10%. That net salvage value does not depreciate. Therefore, I have deducted the non-depreciable property from the reproduction cost and that leaves the depreciable apparatus at \$326,-I have estimated that to be in 95% condition. Taking 066.00.

95% of the \$326,066.00, gives the reproduction cost new less depreciation, of \$309,763.00 for that item of plant. 3225

I have treated all of the other items of plant in exactly the same manner as that, with the exception that there was no net salvage value. I have not taken that factor into consideration. For example, on poles, there is no salvage, although with the present

price of wood, I think there ought to be.

The second page of that exhibit shows the reproduction cost less depreciation of all of the preceding items of the depreciable property is \$5,021,143.00. I then took the non-depreciable property of \$1,-387,863.00 and find the total reproduction cost new less depreciation as \$6,409,006.00, to which I added my working capital, cost of establishing business, and obtain the reproduction cost new less depreciation, including working capital and cost of establishing business as \$8,032,319.00.

Cross-examination.

(Questions by Mr. Howard:)

When I determined the per cent condition of this plant, I am after the accrued depreciation in the physical property. I went out and gave the plant a personal inspection, spent eight days looking it over, yes.

"Q. All right, and you found the plant to be what, found 3226 what depreciation?'

"A. I found that the depreciable property amounted to-" "Q. (Interrupting.) No, I mean the per cent, condition. didn't depreciate the amount, did you?"

"A. No, sir."

"Q. You didn't depreciate anything but what are known ordinarily as depreciables?"

"A. You mean, in per cent. Condition?"
"Q. Yes, the per cent condition."

"A. I found the depreciable property in 92.57 condition."

"Q. Or a depreciation of 7.43?" "A. Of the depreciable property."

"Q. All right, now what does that include?" "A. That includes the accrued depreciation."

"Q. In what way, how do you arrive at it, includes rust and wear, does it?"

"A. Yes, sir."

"Q. What else does it include?"
"A. It includes rust, rot and decay."

"Q. What else?"

"A. That had accrued in the property."

"Q. What else."

"A. That's all that includes." "Q. That's all that includes?"

"A. Yes, sir."

3227 Redirect examination.

(Questions by Mr. J. D. Frank:)

I find as the total cost new of the physical property \$6,817,753.00. That is, the total reproduction cost new, less depreciation \$6,409,-006.00.

I climbed a good many of the poles to make a physical inspection

of the wire in the plant.

I am familiar with the original cost of this plant as shown by the books and have taken that into consideration in arriving at the valuation which I have placed on this plant. I am also familiar with the gross additions which have been made to this plant for the last five or ten years. I have just made a rough approximate as to the amount of money which would be required to make extensions or additions to the plant within the next ten years. suming that Houston would continue to grow and develop as it has in the past, I would estimate that it would require about Three million dollars additional money. That is, in the way of extensions or additions to the plant within the next ten years and enlargements to meet the growth.

My opinion is that there is need for such a plant as this in Houston and I think that the Plant is economically justified. opinion there will be an increase in the demand for telephone The demand for service service in this particular locality.

I know that the demand for service has in-3228 will increase. creased in the past with the growth of the City. This plant is well constructed and it is favorably located, and the buildings are located in the proper places in the City. It has been, and is, well engineered. This property is in good condition, in fact, I have inspected a great many plants, and this property is as good a property and in as good condition as any property that I ever inspected. I have made a study, in a general sort of way, with reference to the history of this community. I obtained a book issued by the City in 1917 and familiarized myself to a more or less degree with the City. That book is entitled "Illustrated City Book of Houston, 1917." I don't know whether that was gotten out by the City or by some commercial organization. I just know that the covers indicate City Book. It contains reports from the Mayor and various officers of the City and also contains an analysis of the City by the Chamber of Commerce. I learned with reference to the

growth of the City that in 1900 the book indicated that Houston had a population of something like 44,633 people, that in 1917, the population was approximately 150,000 people, that is an increase of 336% or an average yearly increase of 18%. The manufacturing capital in Houston increased from 1909 to 1914, 53.3%. At this period, there were 365 factories, employing something like 10,000 people with a combined pay roll of approximately \$10,000.

000.00. That would indicate then that the business in this 3229 City is fairly good. I found that Houston was headquarters for several of the largest oil industries in the United States with a combined capital, aggregating over \$100,000,000.00. The wholesale trade of the City amounted to approximately \$125,000,000.00 and the retail trade at \$57,000,000.00. Houston also claims the distinction of being the financial center of the State of Texas. I would concede it personally. From my investigation I would say that the City has enjoyed a gradual, steady growth. From what I have learned as to the past history of this community I would expect it to grow equally as rapid, if not more so. The bank deposits show a constant increase. It has access to the Gulf, it is a large lumber center, and something like 15 or 17 railroads center at Houston, and it is only natural to assume that Houston will have and enjoy a continual growth. I am familiar in a general way with the financial history of this telephone company here whose property I have been valuing. I know what conditions have been made to the plant in the last eight or ten years and what money they have had to put out for that purpose. I have seen Mr. Scott's exhibit with reference to the outstanding stock and bonds of the company. In my opinion you would have to take into consideration the value of the stocks and bonds outstanding in arriving at the value of the property here. I have given due consideration to all of these

3230 matters in arriving at what in my opinion constitutes the value of this plant. Basing my opinion on these matters, that is, the original cost, and the cost of reproducing the property, less depreciation, the history of the community and the number of subscribers that we have, the additions that have had to be made to the plant in the past, what money will probably have to be put into the plant in the future, what in my opinion the value of the plant constituting the Houston Telephone plant is in round figures eight million dollars.

Cross-examination.

(Questions by Mr. Howard:)

"Q. Mr. Topping, are you an engineer?"

"A. Yes, sir.

"Q. A technical engineer?"

"A. No, sir, my training has all been practical."

"Q. You spoke a while ago about this plant being well engineered, and having been well-engineered in the past, what do you mean, that the lines and the conduits have been laid out well with reference to the City as it grew from time to time?"

"A. Yes, sir, and that it has been placed in the most advantageous

position."

"Q. That has not been affected at all by the development of the City in different portions? What I mean is this, Mr. Topping: If this engineering was done and well done at the 3231

time and served the community but later on a big addition was opened up some distance removed from the center, would that or not tend in any way to affect the desirability of the location of these lines?"

"A. It might have some effect on it. In engineering a plant, an

engineer foresees into the future as far as he possibly can.'

"Q. But he necessarily can't foresee as well as he can backsee, does

"A. No, the fore-sight is not as good as the hind-sight."

"Q. If you were to build this fine plant you have been telling us about here in this City now, would you rely upon your own judgment as to the matter of where you would run your conduits and your lines and things of that kind?"

"A. I would, partially, I would have to have some assistance on it. One man couldn't engineer this entire property. It is too big a

job."

"Q. Well, is it a job that you would undertake to oversee and engineer? There must be a supervising engineer in any big construction like that. Would you assume that rôle?"

"A. I would assume a general supervision."

"Q. You mean that you would employ you a first-class engineer and consult with him at times?"

"A. No, sir, I mean this, that if I were reproducing this property, looking after all of it in detail, I couldn't handle 3232

the entire detail.

"Q. Well, my point is this, Mr. Topping. Can a man who is, conceding to him a very high degree of intelligence and efficiency, who has secured his knowledge of the business from working in it, in the different parts of it, and growing up with it, get that knowledge that will enable him to lay out construction work in the same way or to the same degree that a technically trained engineer could get?"

"A. I would say that he is better equipped."

"Q. You would say that he is better equipped?"
"A. Yes, sir, because he has the practical experience. A technical man may be trained but then before he could go and lay out that plant, he would have to have the practical experience."

"Q. Did you ever lay out any plants of any great magnitude?"
"A. Not as large as this one. I have been associated with work in the engineering department."

"Q. Are there any improvements being made in the telegraphic or in the telephone service, and general improvements?"

"A. Do you mean as to any particular class of plant?"

"Q. Yes, first are there being any made, and if there are, in what respect?"

"A. Well, they are constantly making improvements."

"Q. Of any great magnitude. What do they affect mostly, anything that affects your central office equipment? A switch-board that was installed seven or eight years ago, is that susceptible or likely to be improved any in the near future or supplanted?"

A. Well, they are using and in some of the cases where it is necessary to replace existing office equipment, installing automatic

equipment."

"Q. But the manual equipment and the manual switch-boards, as these are, there are no improvements immediately to be consummated that will improve the character very much?"

"A. Well, not that I know of, nothing except the automatic equip-

ment."

The automatic equipment is a "Q. The automatic equipment. thing that is on us right now, isn't it?"

"A. Some companies are using it where they are replacing worn

out central office equipment." "Q. It is recognized in the telephone world as being a great laborsaving equipment, is it not?'

"A. Yes, sir."
"Q. It will do away to a great extent with the operators?"

"A. Yes, sir."

"Q. Does it have any other advantages in a labor-saving way?"

"A. No, I can't say that it does. It doesn't eliminate all of the help in the central office."

"Q. Oh, it would not eliminate all the operators, I know." "A. But it requires more highly trained and experienced

men to take care of the equipment." 3234

"Q. But it is well recognized as a very great and economical labor-saving method over and above the manual method?"

"A. It does save some labor."

"Q. A very considerable amount too, doesn't it?"

"A. All the operating expenses, yes, sir."

"Q. Say probably 75 or 80 per cent of that wouldn't it?"

"A. Well, I haven't give that any study. I don't know what part of it, but it saves-

"Q. (Interrupting.) Saves a great part?"

"A. It saves considerable of the operators' expense."

"Q. Would the installation of automatic switch-boards and the automatic telephone system necessitate any general change in the plant?"

"A. It would necessitate changing the equipment at the sub-

scribers' stations and the central offices."

"Q. Remodelling the building?"

"A. It is possible that some of the buildings would have to be remodelled."

"Q. You don't take those things into consideration in stating your per cent condition of the plant?

"No, sir, not in determining per cent condition.

"Q. Obsolescence should to taken into consideration in determining accrued depreciation, should it not?"

"No, sir, not unless it has accrued. If it has accrued, than I would take it in.

"Q. But if it is imminent?"

Mr. D. A. Frank: There is no testimony here that it is 3235 imminent.

It may be. Mr. Howard:

Mr. D. A. Frank: Well, it won't be credible if it is.

"Q. I asked him if the change was imminent, whether or not it wouldn't be taken into consideration in determining accrued depreciation, assuming that the obsolescence and inadequacy is imminent, it should be taken into consideration, should it not?"

"A. I would say that unless it had occurred at the time of the inspection, I would not take it into consideration, unless it was ap-

- "Q. (Interrupting.) Now, do you mean to say as a valuation engineer that if you had a plant here, that your lines and conduits were entirely out of place, from a good engineering standpoint, although they had not been removed, and that your central office equipment was located in the wrong place, although it had not been removed, that you wouldn't take those things into consideration in determining-
- Mr. D. A. Frank (interposing): Per cent. condition of the property?"

Mr. Howard: No, I didn't ask him about that. Mr. D. A. Frank: That is what you were asking him 3236 about.

Mr. Howard: I was talking to him about accrued depreciation.

- Mr. D. A. Frank: That is where you get per cent condition. Mr. Howard: Per cent condition and accrued depreciation, I don't thing for a minute, you would contend for a minute is the same thing."
 - "A. I am talking about per cent condition for the plant now."

"Q. But you termed it though, "accrued depreciation," when I asked you about it a while ago.'

"A. Upon my inspection-

"Q. (Interrupting.) You didn't mean, when you were talking about per cent condition you didn't mean accrued depreciation?" "A. I mean, that this much value had been wasted or rotted.

"Q. Yes, you told me that the only things you considered was waste, wear and decay?"

"A. Yes, sir, I considered only the factors that had really happened

at the time of my inspection."

"Q. And would you say, Mr. Topping, now, as a professional valuation engineer that if you had a plant that was in 92% condition, that is, all its switchboards and its 3237 & 3238 poles and its wires and its conduits and all those things compared with their original condition were in 92% but as a matter

of fact, the conduits were misplaced, they were not where they best served the purpose, not in the most economical place, and the Central Office Equipment was not located in its proper place, or that anything was about to happen that would require following the law, proper law of economics, to replace any part of the plant, that this plant that you determined the per cent condition of, would be as valuable as one where these engineering defects have been corrected."

"A. No, I wouldn't think it would be as valuable."
"Q. You wouldn't think it would be as valuable?"

"A. No, sir.

Direct examination.

(Questions by Mr. J. D. Frank:)

"Q. Mr. Topping, would the fact that some of the conduits were misplaced, or bad judgment had been shown with reference to the location of some of the buildings, have anything to do with the per cent. condition of the property?"

"A. It wouldn't have anything to do with the per cent condition

of the property."

3239 In the District Court of the United States for the Southern District of Texas, at Houston.

In Equity.

No. 108.

THE SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

VS.

CITY OF HOUSTON et al., Defendant-.

Præcipe.

To the clerk of said court:

The clerk will please incorporate in the transcript of the record on appeal the following portions of the record which the plaintiff, the City of Houston, submits in addition to the rest of the record herein, for the consideration of the United States Supreme Court, in connection with the appeal of The Southwestern Bell Telephone Company:

The portions of the testimony of the witnesses, Lamar Lyndon and C. A. Gates, filed in this cause on the first day of February,

A. D. 1921.

W. J. HOWARD,

Solicitor for Defendant-, City of Houston et al.

Service hereon accepted on this the first day of February, A. D. 1921.

D. A. FRANK, JOSEPH D. FRANK, WM. H. DULS,

Solicitors for Plaintiff, The Southwestern Bell Telephone Company.

LAMAR LYNDON, a witness for the defendant, testified as 3240 follows:

The inventory furnished is, I think, satisfactory to us. It is susceptible of absolutely accurate determination, and when I have gotten that, I have gotten to a well defined border and have crossed the border line and gone into the land of uncertainty. One can set down most any character of figures, and vary them any way he wants to take them, either by taking a five years' average, that is, taking five years and averaging them up, or he can take 1919 prices and apply them, or he can go back and take the trend price and apply those from the start. That is a matter of detail, and one could fix that by the use of a half dozen different methods.

"Q. Well, then, eliminating the different prices owing to the different times, different averages, and depending entirely on what period you take, would you meet with any other difficulty in getting

prices for what you call a phantom telephone plant?"

"A. Simply this, and it is applicable to any character of construction work,-that if a manufacturer or contractor is asked for a price, a quotation, on furnishing any apparatus or doing any construction work which he knows he is not going to get the con-

tract for, his figures will be mosty cursory and not trimmed down to a fine business point. It is not natural, nor is it

human, for a man to make a complete, clear and detailed estimate of a piece of construction work that he is not going to get the job to do and has no hope of getting it, and so all that could be obtained would be something that would be indicative of a maximum cost,-it would be indicative of a maximum cost."

"Q. Well, would the estimate or quotation which you would get, in the nature of things, be higher or lower than the actual cost in

case where you had real construction work?"

"A. It would unquestionably, in every instance, be higher; as I

say, it would be indicative of the maximum cost."

"Q. Well, now, that's another thing that would render this second step in the so-called reproduction method at this time confusing and misleading, and cause you to lose your way in trying to get anywhere after having departed from the inventory, and leave you groping. No, Mr. Lyndon, in trying to bring some light here upon this question, you should know about the effect of prices generally, and whether they have been abnormal and are chaotic, and conditions are worldwide and everything is unsettled; and aside from the fact that you are not completing-not doing any construction work, but merely bothering the manufacturer who is making up estimates You find, through a system of years, starting modestly, for you-

but building up one concern, has gradually acquired the telephone industries until in the United States today it has 3242

acquired four-fifths of them, and the concern that owns this four-fifths of these operating telephone exchanges or plants also owns a gigantic supplier,-the Western Electric Company,-and then it appears that along side of this gigantic supplier there are one or two pigmy competitors,—I think you know them,—the Kellogg Company, I think, is the most important; you find then that the only competition that this supplier that's owned by the same owner that operates the exchanges, consists of these one or two little concerns; I mean little comparatively speaking; that this supplier will put these goods in without any arm's length contract, no competition, no freedom of action, no freedom of trading, no suggestions upon the one part that you are too high, and I could do a good deal better, would you consider that would embarass or lend any uncertainty to a proper valuation upon a reproduction theory?"

"A. Well, it would simply fix the reproduction valuation at a figure that would be produced by the charges of costs set up by one of the members of the same family. It would be difficult, if not impossible, to make a reproduction valuation of a Bell Telephone system without taking into consideration the prices charged by the

Western Electric Company.'

"Q. All right, Mr. Lyndon, having looked over the field and considered all the company's affairs, with a view of trying to 3243 determine and to assist those charged with the duty of de-

termining what would be a fair rate of return and fair earning of this utility, you made an investigation and report and certain computations, I believe; did you not?"

"A. Yes, sir."

"Q. Mr. Lyndon, I believe in trying to arrive at this, you connected with your work of 1914, when there was no dispute between the city and the telephone company at that time in regard to a

valuation that was made?"

"A. There wasn't any particular dispute. We found certain figures and the Company submitted others, and we were not a great distance apart. Of course, it is not normal for a public utility to accept a real valuation, and we always expect some objections and some increases, but the ones they were able to suggest were not very great.

Mr. Howard: Mr. Lyndon has resorted to the method of preparing some exhibits, and we are going to pass them around. Will you mark that as Lyndon Exhibit No. 1?

(The statement was thereupon received in evidence, marked: "Lyndon's Exhibit No. 1," and is filed herewith.)

(By Mr. Howard:)

"Q. Mr. Lyndon, this exhibit I believe you have marked: "Valuation physical plant of the Houston Exchange, Southwestern Telegraph and Telephone Company. Basis of reproduction

244 cost in 1914, plus the actual costs of additions 1914 to 1920."

Mr. Lyndon, I will be glad if you will take that exhibit up briefly and explain it,—just how you have arrived at it and how you get this."

"A. I would expect to find everything here, and in the quantity

and classifications as set forth in the inventory.

"Q. But not as to the long distance and toll equipment, you

would not-

"A. (Interrupting.) I would not know anything about this unless it is set forth in here. This is toll equipment and this is not, and I should assume that is a correct statement."

"Q. It is a fact that all equipment here is used more or less in

handling long distance tolls, as it is in every exchange?"

"A. Oh, yes; the local equipment is used for long distance service;

they constitute the terminals.

"Q. Now, Mr. Lyndon, you have a summary, I believe, on the top of the first page of your Exhibit No. 1, have you not?"

"A. Yes, sir."

"Q. Now, Mr. Lyndon, referring to your Exhibit No. 1 here, I see you have set up here "The reproduction Cost in 1914." Mr. Lyndon, first I will ask you how you arrived at that,-at any reproduction cost at that time?"

"A. Took an inventory." 3245

"Q. Who took an inventory?"
"A. The Southwestern Telegraph and Telephone Company took the inventory and we checked the inventory and found it correct, except in occasional items,-found a little deviation, I should say, within one-twentieth of one per cent. It was negligible. Then we took the items and got the prices and added to those prices what we regarded as a reasonable overhead."

Mr. D. A. Frank: When was that?

"A. In 1914; and in that way we found-

Mr. D. A. Frank (interrupting): Now, this refers only to the physical property?"

(By Mr. Howard:)

"Q. I understand-

We found that the cost of reproduction "A. (Interrupting.) on that basis was \$2,080,935.00."

"Q. Now, that's in the column headed: "Lyndon and Elrod?"

"A. Yes, sir."

"Q. Now, I notice in the other column to the right you have: "S. W. T. & T. Co." I suppose that's the Southwestern Telegraph and Telephone Company?"

"A. Yes, sir."

"Q. What do these two headings mean?" What is their significance?"

"A. It means-that, as a matter of fact, those two head-3246 ings refer first to the Lyndon and Elrod reproduction value in 1914, and to the Southwestern Telegraph and Telephone Company's reproduction value in 1914, for the physical property. Now, we found \$2,080,935.00. Then the Southwestern Telegraph and Telephone Company's figure for these same items, and inclusive of the same overheads, that is, the same classification of overheads-not

the same amount of overheads, was \$2,326,940.000."
"Q. Now, Mr. Lyndon, as I understand it, while you used the same inventory, you checked it and made it your inventory, and there was some little difference, and you call one the Lyndon & Elrod-

"A. (Interrupting.) But we used the same inventory in both

cases."

"Q. But in some little cases it didn't correspond?"
"A. It was so far negligible we simply adopted the Southwestern

Telegraph and Telephone Company's inventory."

"Q. Both you and the Company at that time seem to have made an appraisal of the property as shown by that inventory, did you not?

"A. We did."

"Q. Mr. Lyndon, where did the Company get its figures for the

appraisal; do you know?"

A. No; they furnished us the figures and we put them in the report to show the comparative amounts of the two appraisals."

"Q. Now, did you, by this method of inviting estimates of costs from the suppliers, obtain certain figures yourself at that

"A. Yes, sir."

"Q. And to whom did you apply; do you remember?"

"A. Various suppliers. The Kellogg people gave us the price on the switchboard; I think that the Southwestern Company's prices on the sub. sets were taken; on the poles we got prices from several people; the cables and wire, I think the National Conduit & Cable Company, and the Standard Underground Cable Company gave us those prices; I am not sure about that. It is seven years ago, but we went to the suppliers, to the well recognized standard manufacturers of the materials."

"Q. How did the prices you received compare with the prices used

by the Company?"

"A. Well, the Company's estimate was about 10% higher than ours."

"Q. On the appraisal?"

"A. On the appraisal; \$2,080,000 to \$2,386,000." "Q. And in this summary you show both figures?"

Yes, for comparison; and that's what those two sets of figures

mean under the title of "Reproduction Values-1914."

"Q. Under what circumstances did the Southwestern Telegraph and Telephone Company furnish you this inventory; do you recall?"

"A. We were making a report on the property to determine whether their rates were too high or not, and they gave us the data.

"Q. Gave you what purported to be a complete inventory 3248 of their property?"

"A. Yes, and we checked it."

"Q. Do you recall whether you had any discussion with any of the

officials of the Company at the time, after you completed the ap-

praisal, as to the values?"

"A. Nothing definite, except that there was exception taken to only a few of our prices. They did not agree with us on the pole prices; I remember that very specifically. But we had put the plant high enough, at least to be sure of our ground there, and there were some other small differences that finally aggregated this difference of about \$250,000."

"Q. Then you have here then as a starting point that you have adopted in this report a double standard; you have one shown by your appraisal and the one shown by the Company's appraisal upon

the same inventory?'

"A. Yes, it is the identical inventory."

"Q. Now, in order to bring, or arrive at, the present values, just confining ourselves, now, to what the physical properties are, as I understand it, what else does this exhibit show, Mr. Lyndon?"

"A. It shows their additions and the actual cost from 1914 to 1920. Now, by their actual cost I do not mean exactly, as set forth by the books. There are two modifications from the book charges.

One is, that the aerial wires are shown on the books to have a 3249 certain value, while the Telephone Company's own inventory and own statement show that that value does not exist We substituted for the Company's books on that item-

(By Mr. D. A. Frank, interrupting:)

"Q. You are talking about 1914 now, aren't you?"

"A. Talking about 1914."

(By Mr. Howard:)

"Q. What item did you mention there?"

"A. The aerial wire. We substituted for the Company's books or book record the Company's own later record of existing wires and other costs. That is, we took, of two Company records, we took the one which appeared to be the rational one.

"Q. Why do you say the most rational?"

"A. Because the Company stated that all the wire that they had or had in sight, or could account for, or that was shown by the inventory, was so much and it cost this much money; and I regarded the does not represent existing property. That is one modification of the existing property as the rational one, and not some other item that Company's books or cost records is that covering the circuits and subsequent valuation of the Houston Home Telephone Company. Company paid some \$700,720.00, not exactly, but approximately, and

I will use that figure as an approximate figure, subject to be made exact later. The Company paid about \$700,000.00 more for the Houston Home Telephone Company's property

than the cost or the value of the property, -- physical cost-"Q. (Interrupting.) What do you mean,—how do you arrive at that?"

"A. By an inventory and valuation. This excess of Seven Hundred and Twenty odd thousand dollars was then written into the Company's costs and valuations as, I think, cost of establishing business, but it was written into the Company's record-"

"Q. (Interrupting.) Did you want the summary?"

"A. Yes, about the details of that transaction, the Houston Home (Paper handed to witness). It states here it is written up as an intangible value. Well, the City, of course, denied that the Company could make purchases of existing property already in the service of the public in the City, at a figure greatly in excess of its value, and then adding up that value, that excess amount, as a proper sum on which dividends should be paid. Of course, if that were not true, why mutual companies could just buy from each other and keep going right up till there was no limit. Therefore we took only the value of the Houston Home Company's property which remained in the service of the people of Houston as the addition which should be allowed to cover that purchase. Those are

the two modifications that were made from the Company's books in order to reach this sum of addition, 1914 to 1920. Further actual purchase of materials, further expenditures

for labor or any other cause or reason, has been put down exactly as the Company's books show these costs to have been incurred."

(By Mr. D. A. Frank:)

"Q. You mean our plant?"

"A. Oh, yes; our plant, remember,-physical plant only." "Q. Not including either working capital or supplies?"

"A. No. sir."

(By Mr. Howard:)

"Q. Physical plant, eliminating working capital and supplies? Mr. Lyndon, was there some method, or is there any method by which-did you determine the number of stations that had been added since 1914 up to the present time?"

"A. We did not determine them. We took the Company's statement."

"Q. Well, you determined them only in that way?"
"A. Yes, sir."

"Q. You took the Company's-"

"A. (Interrupting.) Took the Company's figures."

"Q. You familiarized yourself with the properties in that manner?"

"A. Yes, sir."
"Q. Did you get any comparison or arrive at the cost or increase per station?"

"A. Yes. sir.

"Q. Did you determine what that amount was?"

"A. Yes, the increase in the actual investment by the Company, with the modifications which I have mentioned applied 3252 to the increase in the number of telephone stations, amounted to around \$310.00 per station."

"Q. Now, that is excluding this something like \$700,000.00 that

they carry on their books as intangibles?"

"A. Yes, excluding that." "Q. Even excluding that?"

"A. Yes, sir."

"But had that been included, that would have made the addition amount to something like \$2,000,000.00, wouldn't it?"

"A. Oh, yes; the additions would be over \$2,000,000.00 if that

was included."

"Q. What would that be, approximately; can you figure it quickly? About how much that would be a station?"

"A. Well, the increase per station of forty-six hundred sta-

"Q. (Interrupting.) It would add about fifty per cent?"

"A. About fifty per cent to the cost; it would run around \$450.00

per station as the cost of the increase.'

"Q. Is that regarded as a rather normal or natural and anticipated, looked for, cost of an extension per station?"

"A. It is very extraordinary."

"Q. Very extraordinary. Well, taking the other figure first, of \$310.00; is that ordinary or extraordinary?"

"A. That is extraordinary. That is shown in this manner.

3253It will — clear that the cost of additions per stations is less than the total cost per station. There is no increase in the building, real estate, nor the switchboard equipment, assuming that the boards are of a certain maximum size; there is no increase in any of those items, only the wires, the instruments and some of the auxillary apparatus, so that the cost per station for extensions must always be less than the cost per station, the total cost per station, taking in all of the stations and all the costs. Of course, that has certain limitations. It does not mean that if the cost per station calls for another telephone station and trunk line that that is true; but as long as the conditions remain the same, in that the number of exchanges is not increased and the size of the building does not have to be increased, the cost per station for increases is less than the cost per station for all the stations divided into the total cost. I think that is clear and obvious to a layman or to anybody. The statement of the American Telephone and Telegraph Company for 1918 shows that, taking over the whole United States and inclusive of long distance lines, the average total cost per station was \$153.00. I believe the report, the annual report of the American Telephone and Telegraph Company, to be correct. I have no means of check-I recite that it was received from that source. Here in Houston, the expenditures from 1914 to 1920, for extensions only,

has been double, just double this amount which the American Telephone and Telegraph Company sets up as the total 3254cost per station taken throughout the United States. For this

reason I say that \$310.00 is excessive."

"Q. And in allowing \$1,400,000.00 for these additions, that, to say the least, appears to be liberal?"

"A. Yes, sir.

"Q. A very liberal expenditure, considering the number of stations attached?"

"A. More than liberal; but as the Company's books show that amount expended——"

"Q. (Interrupting.) The amount has been paid?"

"A. It has been paid. We assume it to have been paid and we accept it,—we don't question it; but we do call attention to the fact

that it is a great deal of money for a station."

"Q. The causes of that, and the reasons for it, while they may be proper and, when pointed out, may fully explain it, as I get it, it strikes a man who investigates this question as rather startling that that cost per station should appear?"

"A. It does."

"Q. Then, if it should appear that those stations cost \$450.00, why, of course, that would be not only extraordinary, but——"

"A. (Interrupting.) It would require more explanation still."
"Q. It would require much more, but, of course, that part
3255 of it based on that cost and allowing it, you can account for
that \$700,000.00, and, to your way of thinking, it should be

rejected?"

"A. That was a financial trade; that had nothing to do with supplying the City of Houston with telephone service; on the contrary,

to remove a competitor."

"Q. And to set that up and allow an earning on it would be to superimpose on the community a charge of about \$150.00 per station, where it appears that the extraordinary charge for some reason or other, possibly a proper one and economical one and a legitimate one, has been added, would be an unreasonable burden, in your mind, upon the public?"

"A. It not only would, but it seems to me it would set a most dangerous precedent, because there is no limit to what such sales could be carried, if the profit one side to another can be admitted,

and if they can be admitted once, why not ten times?"

"Q. Then, as I understand it, arriving at these physical properties, you take that starting point in 1914, the two horns of it and build on to both of them; you have got a kind of two-legged proposition, and you add \$1,400,000.00 because you find that as amount actually expended upon the Company's books; then checking that against the number of stations that have been added since the starting point, in 1914, you find that it, so far as being fair to the Com-

pany is concerned, that it checks; and in addition allows 3256 what you call an extraordinary amount for stations for what

the community has received?"

"A. Apparently so."

"Q. Now, Mr. Lyndon, I believe in 1914, in their appraisal as distinguished from their inventory, which we agree with, the Company has added certain other amounts, has it not, to the figure that you give here of \$2,326,940.00?"

"A. Yes, sir."

"Q. Upon what was that amount, and what was the basis of the

set-up?"

"A. The claim was that they had extra charges, had spent costs over and above those which was included in the unit prices, and

that these costs included such things as taxes during construction, insurance during construction, and other items of like character."

"Q. Ordinarily called loading charges?"

"A. Yes, but there are such loading charges that are perfectly allowable, that are really actual part of the costs, and then there are others that are fictitious, but these charges, which they claim are inseparable from the methods of the Bell Company, amounted to \$348,271.00 more than the \$2,326,940.00, which was the reproduction value coming from applying loaded unit charges to the items of the inventory."

"Q. But those loaded unit charges had appeared in the cost

prices set up on the books, did they not?

"A. Well, that is, these are reproduction values." 3257

"Q. Oh, yes." "A. These are outside-

"Q. (Interrupting.) Yes, upon the reproduction of 1914?"

"A. Yes; the books were not consulted on these. costs of reproduction, so that this is an additional amount that are added overhead charges; they are not all the overhead charges; most of the overhead charges, and all that were considered essential were included in the unit costs, but these are additional overhead charges which the Southwestern Telegraph and Telephone Company claims that they were subjected to, amounting to \$345,271.00, or about nearly eleven per cent of the whole reproduction value under

"Q. (Interrupting.) Now, let me see if I understand you, Mr. You took this inventory of the property and applied the unit costs and material prices, and you got a total in 1914 of

\$2,080,955.00?"

"A. Thirty-five."
"Q. Thirty-five dollars. Well, now, wouldn't there be such loading charges,-wouldn't there be a mere addition of the sum set opposite,-don't this figure represent the mere totaling of the appraisal set opposite the different items in the inventory?"

"A. Yes, that reproduction value means the Lyndon and Elrod value; means unit prices plus all the loading that was usual

3258 in engineering and would be considered rational."

"Q. Oh, yes, you added those in your prices when you applied them to your inventory?"

"A. Naturally."

"Q. For instance, if you had a pole there of a certain class and you put down the pole not f. o. b. Houston or the factory, but the pole as set up in the plant?"

"A. Yes, sir.'

"Q. Added the cost of digging the hole and the cost of hauling the pole out and putting it up?

"A. Engineering and supervision."

"Q. Engineering and supervision, and everything of that kind; you applied it as you went along to each item of the inventory?"

"A. In most cases. In some cases we merely made a lump percentage at the end."

"Q. And included it in the appraisal of this figure?-\$2,080,-935.00?"

"A. Yes, sir."

"Q. So then, when you get through with the appraisal you have a reconstructed plant ready to operate?"

"A. Yes, sir,-physical plant."

3259 "Q. Mr. Lyndon, next can you give us the amount that you arrive at by adopting the second of these methods?-that is, your reproduction value as of 1914, applying the cost that you obtain to the inventory that you checked?

"A. In 1914 we found the reproduction value of the then existing physical plant to be \$2,080,935.00; the additions from 1914 to 1920, according to the Company's books, with the exception of the two modifications already cited, have been \$1,427,633, so that the present value, on the basis of reproduction in 1914 and additions at the high price levels from 1915 to 1919, would be \$3,508,568.00."

"Q. The total amount of the physical plant, value of the physical properties in the plant as distinguished from some other properties?"

"A. Yes, sir."
"Q. Is how much?" "A. \$3,508,568.00." "Q. \$3,508,568.00?"

"A. Yes, sir."
"Q. That includes the property of the Home Telephone Company that was used in this plant?"

"A. Yes; that still exists here in Houston and is attached-"Q. (Interrupting.) And does not include some seven hundred odd thousand dollars that is carried by the Company now in the way

of an intangible?" "A. It does not." 3260

"Q. But it does include all the property of the Home Telephone Company-physical property, retained in this plant; although it might, and does, you say, to a certain degree duplicate property then owned and used by the old Company, or the Southwestern Company?"

"A. Yes, sir."
"Q. You have made no deduction on account of the fact that that is probably a duplication, and not necessary in the proper conduct

of the business?"

"A. None; and to do so would require a survey of the two systems, to say exactly what amount and to what degree these duplications might occur and what prospect there might be for the use in the future of any duplications,—and it would be somewhat speculative; and though it has simply been included in these set-ups at the full cost price as of the original cost."

"Q. Would that, in the matter, in trying to judtly arrive at the investment of this utility in the service of this community, be in

favor of or against the amount of the investment?"

"A. It is obviously in favor of the investor. Wherever a doubt

arises it usually is fair to resolve it in favor of the investor; that is, doubts of this kind, and I believe it is customarily done; certainly, I always do it."

"Q. And you think it is the fair thing to do?"
"A. Yes, sir."

3261

"Q. Now, as it is done here, where a company is serving the public and they have lines and conduits that reasonably and properly serve the territory, and another company has lines paralleling them that they don't particularly need, and they buy that property, although it is not necessary, and use it in the conduct of the

business, why should they be allowed for that?"

"A. Well, if the amount of duplication is very great and a survey is made of the amount of that duplication, and it is well established, and the prospect for the growth of traffic does not indicate that it will never be useful, why, an approximation can be made of the value of the property which is not and never can be useful to the public, and that, of course, should be deducted."

"Q. Suppose the use is remote?"

"A. It then is no longer a question of doubt. It then becomes

a substantial certainty."

"Q. But why should a utility be permitted to acquire property not needed in the industry or in the operation of the business, and earn a return on that investment pending the time it does become useful? I am not speaking now of where there is a reassnable apprehension of growth, when it is originally constructing its plant; but why should it be permitted to take over another plant and let those lines lie idle

until some time in the future when it may become ad-

visable to use it?" 3262

"A. It should not. But if the use is remote and the dupli-

cation is established-

"Q. (Interrupting.) But whether useful or whether it will ever be useful, or remotely useful, it has been allowed to them in this set-up?"

"A. It's all in these computations."

"Q. Now, Mr. Lyndon, taking up the third method of valuing this property, which involves the reproduction by the Company, itself, in 1914, and with the overheads and accessories claimed by it, together with the actual additions from 1914 down to the end of

1919?"

"A. The Company's own reproduction value in 1914, including a number of overheads and accessory charges, like warehouse charges and a number of others which we regarded as hypothetical and that they were not entitled to being converted into real money, was \$2,672,211.00. It was \$592,000.00 in excess of the reproduction value which we figured for the same year,—approximately 20% more."

"Q. Well, how much is this figure that they arrive at, or will arrive at, allowing them all that they claim on the physical property used

in the plant itself?"

"A. And including all these overheads?"

"Q. Including all the overheads which it claims."

"A. With the additions from 1914 to 1920, the total would 3263 become \$4,099,244.00."

Mr. Howard: I will next introduce this paper as Lyndon's Exhibit No. 4-"Value of Working Capital as of January 1, 1920."

(The Exhibit was thereupon received in evidence, marked: "Lyndon Exhibit No. 4; witness, Lamar Lyndon," and is filed herewith.)

(By Mr. Howard:)

"Q. Mr. Lyndon, what is the next item that you add to the property value or capital account of this Company used in the service of this Houston exchange?"

"A. Working capital, by which is - an amount to represent a sufficient sum in cash, kept on hand by the Company to properly

conduct the business."

"Q. How much do you add for that purpose?" "A. I have computed the working capital to be \$37,923.00 in this manner; that the amount of cash required should not be in excess of the expenditures for forty-five days. The total operating expenses for the year 1919 were \$632,000.00 for the whole year, and forty-five days is approximately 6% of a year. Wait a minute,there is another element in there; that the bills rendered by the

Company are in advance of service, and the cash needed should not exceed one-half to two-thirds of the expense for one month, due to the fact that a large proportion of the 3264 income for the month is collected in advance; and taking twenty days as the total amount for which the Company should have working capital over and above that which comes in from collections in advance and referring it to the \$632,000.00 for one year, the amount the Company should have on hand is \$37,923.00, and that is the method by which that sum of money is determined, which looks Now, however, that is not used, but a round sum of \$60,000.00 which, in conjunction with the \$40,000.00 for stores and supplies, makes a round addition of \$100,000.00 to the Com-

pany's physical property." Well, Mr. Lyndon, that in a spirit of liberality?"

"A. In a spirit of liberality, sure."

A. In a spirit of liberality, sure." "Q. Mr. Lyndon, the proof,—I believe the proof in this case shows that there is no, what you call as in the street railway case or a traction company, no advance payment upon the month's service. The most that happens is that the bills are rendered on the first of the month and payment is not thought, I believe, until the tenth; in any event, there is no default until the tenth. I believe the proof is that only 40% of the bills are paid before the middle of the month; it might not be as much as 40%—

Mr. J. D. Frank: They are not cut off until about the fifth of the succeeding month. 3265

(By Mr. Howard:)

"Q. Mr. Lyndon, a few of those facts having developed, could you revise this working capital account so as to eliminate any idea of advance payments and give them what you consider a fair work-

ing capital?

If, on the assumption that I made, which was that "A. Easily. the bills would be paid on or about the tenth, substantially most of them, that would leave twenty days that the Company could operate with money collected in advance; add to that another twenty days and a specific sum of money to cover that, means forty days that I had in mind. No, if they had forty days of operating expenses without the collection of any money in advance, it would be naturally double what it would be for twenty days, and for twenty days it was found to be \$37,923.00, or \$38,000.00; and if that amount were doubled, it would be \$76,000.00. That would give forty days of continuous operation without a dollar being derived from any other source for that purpose."

"Q. In view of the fact that they have no means of collecting,in forcing collection until after the expiration of the month, would

it not be fair to allow it on that basis?"

There is \$60,000.00, which "A. That basis is nearly allowed. means of that \$76,000.00 there is only \$16,000.00 to be collected within twenty days of the month, and that is a very small proportion of the monthly income of the Company. 3266

Q. You will consider, then, that \$60,000.00 is sufficient

to equip them in the matter of working capital?"

"A. I should regard it as ample for condition, as the necessity for working capital is to pay only for satisfactory and convenient operation of the Company. It is not meant to take care of any improvements or betterments, because they are advanced in another way, and the financing is paid for by charges of interest during construc-You can not charge interest during construction on an amount of money and also add it to capital account and let it draw interest as a portion of your capital account. Those two must be separated."

"Q. Well, Mr. Lyndon, I would like you to then carry forward some figures on the different methods that you have pursued in valuing this property,-to add these different items to the depreciated values you have given us. You have given us the depreciated value, and we would like to have you add to that value of the physical plant,—the physical property of the plant, the items of stores and supplies and of working capital as you found them to be,

and give us those totals in each instance."

"A. On the basis of cost of the property less depreciation and the addition of stores and supplies and working capital, the present value is \$2,845,248.00. On the basis of the Company's reproduction value in 1914, and subsequent additions as made at cost from

1915 to 1919, duly depreciated, and the additions of stores and supplies and working capital, the value is \$3,281,-844.00,-a difference of about \$450,000.00."

"Q. I didn't understand you. Which method of arriving at the value of 1914 did you pursue?"

"A. I have given you both; one is the Company's claim in 1914, plus the additions made since, as per the books; and the other is the actual cost from 1901 to the present time."

"Q. Now, this one included the overheads claimed by the Com-

pany?"

"A. The Company's reproduction cost did include the overheads paid by the Company."

"Q. And this one you have used of 1914 basis-"

"A. (Interrupting.) Yes, sir.

"Q. (Continuing:) And added the additions since?"

"A. Yes, sir."

"Q. And stores and supplies and working capital?"

"A. (Interrupting.) Have been added to those. That's \$100,-

000 even, sixty and forty,—the sum of these two items."
"Q. Now, let me understand that, Mr. Lyndon. By the first method you have added to the cost of the plant as depreciated, stores and supplies and working capital?"

"A. Yes, sir."

"Q. And you get what figure?"
"A. \$2,845,248.00."

"Q. And how did you arrive at the other,-what was the

other computation you made?" 3268

"A. The Company's reproduction value in 1914, plus book

cost of additions made since that time, plus-"Q. (Interrupting.) Well, first let's get the amount you started with in 1914 of the Company's reproduction."

"A. \$2,672,211.00."

"Q. That included those overheads they claimed?"

"A. Yes, undepreciated."

"Q. Now, with the additions since 1914, and stores and supplies

and working capital, you get what total?"

"A. \$4,199,844.00. Now, deducting from that the depreciation of \$918,000.00, there remains as the present value on that basis \$3,281,844.00."

"Q. Now, Mr. Lyndon, what else,-what other things, if any, have you added to the actual value of this capital account, or property value of this Company?"

"A. Well, in 1918 we added an arbitrary figure, call it going concern value, of \$75,000.00. We haven't any justification for it, but the addition of some nominal amount for that is customary, and it wasn't a particular harmful thing for the public, so we simply included it more as a matter of custom. We haven't any real basis for it, except one of assumption, which-

"Q. (Interrupting.) Mr. Lyndon, I would just like to get the figures all carried forward before this examination closed. Now, I would like to have you add the amount you have allowed for going concern or cost of establishing business,-

whatever you call it, and give us your totals"

"A. On the basis of book cost less depreciation and the addition

of the ancilliary amounts, less depreciation, we find the final value \$2,920,248.00; while, if the basis of the Company's reproduction value in 1914, plus additions, be taken, we find the present value is \$3.356.844.00."

"Q. Now, Mr. Lyndon, are those the only things that you have added or taken into consideration, or think should be taken into

consideration in arriving at the value of this property?"

"A. I know of nothing else."

"Q. I will ask you, Mr. Lyndon, from the investigation that you have made and from your experience in the valuation of this property, and for the purpose of rate making and establishing the value of this property as a basis of a return to be paid by this public, what you consider the present value of this property to be,—what, in your opinion, the present value of this property is?"

"A. The present value of this property, in my opinion, is its original cost less accrued depreciation, and represented by the figures, which are \$2,920,248.00, or, in round numbers, \$3,000,

000.00.

"Q. That is what you consider the fair value of this property for the purpose of rate making?"

3270 "A. Yes, sir."

"Q. Mr. Lyndon, we referred a moment go to this cost of establishing business, or going concern. Mr. Frank asked you if you allowed that \$75,000.00 out of a spirit of liberality, and you answered, I think, that you could see no reason for allowing it,—that it was done more out of custom. Now, Mr. Lyndon, let's look at that a little bit. Isn't there bound to be something in the nature of an established business and a business that stands ready to operate, as distinguished from one which is not? Isn't there some advantages over an established and going business—in an established and going business?"

"A. In a measure, that is true of a utility. Of course, there is always a tendency to confuse a little bit, good will with going concern. No such thing as good will can adhere to a public utility that has a monopoly. But in the case of a going business, while there is an advantage in having it a going business, it must be remembered that this going business was produced to the advantage of the utility itself; that is, the utility started and grew and it extended by reason of a demand for whatever service it might supply, and in making these extensions and in performing this service, it has made a profit; it has always made a profit; if it has not made a

profit, then by an amount which is the deficiency over the 3271 profit it should have made, it is entitled to set up a figure in its capital account as cost of establishing business. The cost of establishing business must be a real amount of money; it must be something the Company has experienced."

"The chances are that material like copper and wire and poles, where they are lying in a warehouse and not susceptible to furnishing a demand anywhere, the amount that the particular material,

as applied to a specific purpose, it is removed from that general demand, is it not?"

"A. Yes, sir."

"Q. And it must then be sold to whoever will come along and buy whatever is constructed of this particular material?"

"A. If the plant is a constructed, operating utility."

"Q. So then, the only way of realizing upon this advanced value would be finding somebody who would buy the utility based upon this advanced price?"

"A. Yes, sir."

"Q. The number of purchasers of public utilities are necessarily quite limited, when considered in connection with ordinary buildings and construction, are they not?"

"A. As far as I know, there are none now."

"Q. Mr. Lyndon, then is there any way,—in your judgment, then, is this so-called advance merely theoretical, or an actual advance upon which the owner of poles and wire

and copper can take a profit?'

"A. It's only theoretical, in that it is impossible for the owner to take the profit by any method I can conceive to dismantle and sell parts of the plant. He might be able to dispose of it as junk, but to sell the plant as an operating utility at anything like the theoretical value which would be given, I would regard as commercially and financially impossible."

"Q. Practically absurd, would it not?"

"A. It so seems to me."

"Q. In your opinion, would any shrewd man, even though he had the desire to embark in the telephone business, pick out a time when prices had abruptly changed their !evel and taken a level around 100% higher, where he knew that that absurd change was due to a specific cause and the cause was not yet removed,—would any reasonably shrewd business man embark in a venture at that time?"

"A. I will answer that by telling you the policy adopted in my office about the middle of 1914,—the beginning of 1915. We occasionally have requests to report on projected enterprises, particularly hydro-electric development, although Mr. Frank insists my limitations are the storage battery; I have always stated to prospective clients that there was no use in making reports for the then

development of any water power with long distance trans-3273 mission connected with it, because the investor would run

the risk of seeing his values diminished and diminished permanently; and he would sustain a permanent loss that he could not hope to collect interest on, simply because the plant would have been developed at an unpropitious time. Now, that is the policy I have adopted in my office and that is the best comparison of my views."

3274 C. A. Gates, a witness for the complainant, testified as follows:

The cost of the subscribers has not been paid for by the public, or anything of the kind. I am not referring to the subscribers we have here.

"Q. But you are talking about this imaginary plant, the losses you are going to run into in the imaginary plant, but keeping in mind that we are concerned primarily with this plant, I am pointing out to you that this plant wasn't built in four years, and you couldn't get your subscribers attached and run into a deficit, but I am pointing out to you under this head and am trying to determine the rate upon which you can go along contemporaneously with the growth of the plant and attach your subscribers. Now, that cost of attaching your subscribers is paid out of the operating expenses; that's true, isn't it?"

"A. As I have stated to you, after the plant is in operation, the

cost of advertising and canvassing is operating expenses.'

"Q. That happens, then, here in the plant today?"
A. That is not represented by this set-up here."

"Q. I am not concerned at all with your imaginary set-up. It is very pretty, but I am not concerned with it. So, then, that is true-

my statement is true that his cost of establishing business, such as advertising and soliciting and attaching the subscribers, has been paid for out of the operating expenses?"

"A. Not the cost I have put in the appraisal."

"Q. I am talking about the Telephone Company, not the imaginary one; I am talking about this one. You know what I mean by that. Isn't it a fact that the cost of getting these subscribers from year to year, as the plant has grown and developed, has been taken care of in and paid out of the operating expenses? I am asking you the question, and we are going to go all the way through with this, and there is no use in your trying to divert it. I am asking you that question, if it isn't a fact that these expenses, such as advertising, salaries of soliciting agents and similar expenses calculated to add subscribers, have not been paid out of the operating expenses of this particular plant?"

"A. Of the plant in Houston today, as it exists?"

"Q. Yes, sir."
"A. I could not tell you that with absolute certainty, because I am not familiar with the books."

"Q. But don't you know that it is a fact?"

"A. I know that at the present time the cost of advertising and canvassing is charged to an account known by that name, and is charged to operating expenses now, but the bookkeeping methods

have changed and I have not been through the books of the Company in years gone by, and I do not know where that

money was charged.'

"Q. But the truth is, and you know, as a public utility man, that since the installation by this Company of the system of keeping books under the Interstate Commerce Commission regulations, that a great many things that had theretofore been charged to operation were taken out of operation and made chargeable to other accounts. and a great many of them to Capital Account?"

"A. I know that a number of changes were made in the account-

ing system.

3276

"Q. As far as this plant is concerned, these things have been paid for out of operating expenses?"

"A. No, I will not agree to that entirely."

3277 The above and foregoing Statement of Testimony and Proceedings taken and had at the trial of the above styled and numbered cause having been submitted to the Court by counsel for Plaintiff and Defendants, the same is hereby approved this 2nd day of February, A. D., 1920.

GEO. WINFIELD JACK, United States District Judge.

The parties hereto, Plaintiff and Defendants, waive service of notice and agree that the foregoing Statement of Testimony and Proceedings had in the trial of this cause may be approved by the Court and filed as a part of the record on appeal.

D. A. FRANK,
JOSEPH D. FRANK,
WM. H. DULS,
Solicitors for Plaintiff.
W. J. HOWARD,
Solicitor for Defendants.

3278

Clerk's Certificate.

In the District Court of the United States for the Southern District of Texas, at Houston.

I, L. C. Masterson, Clerk of the District Court of the United States for the Southern District of Texas, do hereby certify the foregoing to be a true and correct copy of the record, assignment of errors, and all proceedings in the case, as called for in the Præcipes for transcript on Pages 1512-1516 inc. 2404-2406 inc. & 3239 of said transcript, in Cause No. 108 on the Equity Docket of said Court, entitled Southwestern Bell Telephone Company, Plaintiff, (Substituted by order of Court as party Complainant in the place of The Southwestern Telegraph and Telephone Company) versus The City of Houston et al., Defendants, as the same now appears on file and of record in my office.

To certify which, witness my hand and the seal of said Court at Houston, in said District, this the 2nd day of February, A. D.

1921.

[Seal of United States District Court, Southern District of Texas.]

> L. C. MASTERSON, Clerk United States District Court, Southern District of Texas.

Endorsed on cover: File No. 28,081. S. Texas D. C. U. S. Term No. 219. The City of Houston, appellant, vs. Southwestern Bell Telephone Company. File No. 28,082. Term No. 220. Southwestern Bell Telephone Company, appellant, vs. The City of Houston et al. Filed February 7th, 1921. File Nos. 28,081 and 28,082.

SUBJECT INDEX

	Page.
Statement and Nature of the Case	3-5
Defendants' Exception No. 1 to Master's Report	5
Defendants' Exception No. 2 to Master's Report	5
Defendants' Exception No. 3 to Master's Report	6
Defendants' Exception No. 4 to Master's Report	6
Defendants' Exception No. 5 to Master's Report	6
Defendants' Exception No. 6 to Master's Report	6
Defendants' Exception No. 7 to Master's Report	. 7
Defendants' Exception No. 8 to Master's Report	7
Defendants' Exception No. 9 to Master's Report	8
Defendants' Exception No. 10 to Master's Report	8
Delendants' Exception No. 11 to Master's Report	8
Defendants' Exception No. 12 to Master's Report	9
Defendants' Exception No. 13 to Master's Report	9
Defendants' Assignment of Error No. 1	11
Defendants' Assignment of Error No. 2	
Defendants' Assignment of Error No. 3	12
Defendants' Assignment of Error No. 4	13
Defendants' Assignment of Error No. 5	13
Defendants' Assignment of Error No. 6	14
Defendants' Assignment of Error No. 7	16
Defendants' Assignment of Error No. 8	
Defendants' Assignment of Error No. 9	17
Statement of Question Involved	
Argument Supporting Assignment of Error No. 1	
Argument Supporting Assignment of Error No. 2	
Argument Supporting Assignment of Error No. 3	
Argument Supporting Assignment of Error No. 4	
Argument Supporting Assignment of Error No. 5	
Argument Supporting Assignments of Error Nos. 6,	
and 8	41-55
Argument Supporting Assignment of Error No. 9	. 56

ALPHABETICAL LIST OF CASES CITED

	Page.
Knoxville vs. Knoxville Water Co., 212 U. S. 1; 53	
Law Ed. 371 41	1-43-52
Lincoln Gas & El. L. Co. vs. City of Lincoln, 340 U. S. 255; 64 Law Ed. 968	41-56
Simpson vs. Shepard, 230 U. S. 434; 57 Law Ed. 1156 Smyth vs. Ames, 199 U. S. 545; 42 Law. Ed. 849;	18
U. S. Revised Statutes, Art. 8855-i	41 36-39
State vs. Public Service Commission, 233 S. W. Rep. Revised Statutes of Texas, Article 4974 and 4977	41

IN THE

Supreme Court of the United States OCTOBER TERM, 1921.

THE CITY OF HOUSTON.

Appellant,

VS.

SOUTHWESTERN BELL TELEPHONE COMPANY,
Appellee.

APPEALED FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

BRIEF FOR APPELLANTS

STATEMENT

On Ocober 22nd, 1909, the City of Houston, acting under its charter power granted it by the Legislature of the State of Texas, which power is not questioned, enacted an ordinance fixing the charges that could be made by any person. firm or corporation engaged in the business of furnishing telephone service and connections to the citizens of said City of Houston. The maximum rate that could be charged under this ordinance by any exchange having in excess of 3,000 subscribers was \$5.00 per month for business or office connections, and \$2.00 per month for residence connections, and for party line service, business or office, \$3.00 per month, and residences, \$1.50 per month. The ordinance provided a penalty and any person violating same could be prosecuted and fined. (Record p. 5.) The appellee, Southwestern Bell Telephone Company, the same as The Southwestern Telegraph & Telephone Company referred to in the record, which was engaged in furnishing telephone service to the citizens of the City of Houston and had and has more than 3,000

subscribers, filed this suit against the City of Houston and its mayor, council and other officers, to enjoin it and them from enforcing the said ordinance. The ground upon which the injunction was sought was that the rates fixed by said ordinance were confiscatory, unreasonable and insufficient to permit it to operate and maintain its said telephone exchange without actual loss, and that such rates were wholly insufficient to permit it to earn any return whatever upon its property and investment that such ordinance continued and fixed confiscatory rates and was unconstitutional, void and unenforceable and contrary to and in violation of the Constitution of the United States, and particularly the Fourteenth Amendment thereto, prohibiting the taking of property without due process of law, and guaranteeing to all persons the equal protection of the law. (Record p. 10.)

The defendants excepted to the bill for want of equity and denied the allegations of the bill and affirmatively pleaded that the company was estopped from claiming any earning or return on any amount other than the capital actually invested, by reason of what is known as the "Merger Ordinance," same being Sub-section "E" of Section 1 of an ordinance passed May 10th, 1915, by the City Council of the City of Houston, entitled: "An ordinance authorizing the consolidation and merger of the Houston telephone exchange of The Southwestern Telegraph & Telephone Company (the same as the Southwestern Bell Telephone Company (Record p. 796), and the telephone exchange of the Houston Home Telephone Company, providing the terms and conditions of such consolidation and merger," it being provided in such ordinance that plaintiff could earn a fair return upon only the capital actually invested in the Houston plant, it being agreed that for a term of 5 years from said date a fair return upon said capital and investment should not be less than 7 per cent or more than 8 per cent. That the said telephone company accepted the said ordinance, whereby it contracted, agreed and bound itself not to require a return or earning upon anything other than the capital invested in the Houston plant. (Record p. 27.) The cause being at issue, it was, on August 25th, 1919, referred to a special master to take evidence and report his findings of fact and conclusions of law thereon. (Record p. 28.)

Thereafter, on June 7th, 1920, the Special Master filed his report (Record pp. 29-45), in which he found the value of the property used by the plaintiff and necessary to the service rendered to be \$6,003,000, divided as follows: Physical Property, \$5,500,000; Going Concern Value, \$765,000; Working Capital, \$238,000. He approved the 25 per cent allowance to the local exchange for handling the long distance tolls, approved the 41 per cent license contract, whereby the American Telegraph & Telephone Company appropriated 41 per cent of the gross revenues of the local exchange for certain apparatus furnished and services claimed to be rendered, allowed an annual Reserve for Depreciation of 6.33 per cent, approved all allocations of expenses incurred generally by the plaintiff in operating a number of telephone exchanges, fixed 8 per cent as the lowest rate that would not be confiscatory, and recommended a decree enjoining the enforcement of the ordinance.

To this report of the Special Master the defendant City of Houston excepted. (Record pp. 46-49.) These exceptions are as follows:

"1st. For this, that the said Master has found, decided and reported, as appears on page 9 of his report, that the reproduction method affords the strongest evidence of value and that the original cost furnishes but little evidence of present value, and in attaching more weight to the testimony of the value based on the reproduction theory than that based alone on the historical or cost value.

Whereas, the Master should have found, reported and decided that at least as much, if not more, weight should have been given to the historical or original cost, than to the value based upon the present cost of reproducing the Houston Telephone Exchange the property involved herein.

2nd. For this, that the said Master has found, decided and reported, as appears on page 11 of his report, that the property owned by the plaintiff company, used and useful in the telephone service, in the City of Houston, is of the value of \$6,000,000.

Whereas, the Master should, from the evidence, have found, decided and reported that the value of the property of the plaintiff used and useful in the telephone service in the city of Houston is of the value of \$3,000,000.

3rd. For that the Master has found, decided and reported, as appears on page 11 of his report, that the value of the physical property, in its present condition, used and useful by the plaintiff in the telephone service in the use of the City of Houston, is \$5,500,000.

Whereas, the Master should have found decided and reported that the value of the physical property of the plaintiff used and useful of the telephone service in the City of Houston, was not more than \$2,750,000.

4th. For this, that the Master found, decided and reported, as appears on page 11 of his report, that in addition to the physical property of the plaintiff, used and useful in the telephone service of the City of Houston, such property had an intangible value, styled "Going Concern Value", amounting to \$750,000.

Whereas, from the evidence, the Master should have found, reported and decided that the intangible assets, including "Going Concern Value" or cost of establishing business, was not in excess of \$50,000.

5th. For this, that the Master has found, decided and reported, as appears on page 11 of his report, that the plaintiff is entitled to an allowance for working capital of \$238,000.

Whereas, from the evidence, the Master should have found, decided and reported that the plaintiff was entitled to working capital not in excess of \$100,000.

6th. For this, that the Master has found, decided and reported as appears on page 13, of his report that 25 per cent of the toll revenue collected in Houston, which the company credits to the Houston exchange as owners of such exchange, is a fair allowance to such exchange to cover its part in the operation of the toll lines and for billing and collecting the toll accounts.

Whereas, the Master should have found that all the property of the Houston exchange was in addition to the service it furnished to local subscribers, being also used jointly with the toll lines of the plaintiff company, to earn a large amount of tolls, same being for the year 1919, approximately \$400,000, and that the value of the property of the Houston exchange used and useful for furnishing local telephone service in the City of Houston should be reduced by the proportionate use of such property in handling such long distance tolls, and should have further found, decided and reported that 25 per cent was not a sufficient amount to be credited to the revenues of the Houston exchange, but that at least 60 per cent of such toll collections should be credited to such Houston exchange.

7th. For this, that the Master found, decided and reported, as appears on page 17 of his report, that the charge of 4½ per cent on certain gross receipts of the Houston Exchange, amounting to approximately 85 per cent of the total gross receipts of the Houston exchange, which is paid to The American Telegraph & Telephone Company in payment for certain services and the use of certain instruments owned by The American Telegraph & Telephone Company, and leased to plaintiff Company, was a proper operating charge against the said gross income received by the plaintiff company from the operation of the Houston telephone exchange.

Whereas, the Master should have found, decided and reported that the cost of said services and the use or rental of said instruments was not shown by plaintiff and that for this reason the said charge should have been either greatly reduced or wholly disallowed.

8th. For this, that the Master found, decided and reported, as shown on pages 17 and 18 of his report, that it was the right and duty of the plaintiff, in order to enable plaintiff to replace its property used and useful in the Houston telephone service, when it should come to the end of its useful life, and to take care of wear, tear, rust, rot, obsolescence, inadequacy changes in the art, business demands requirements and casualties, the sum of 6.33 per cent upon

the value new of the physical property, or \$348,150 for the

year 1919, as a reserve for depreciation.

Whereas, the Master should have found, decided and reported that 4 per cent upon the value, new, of the physical property at a valuation of \$3,000,000, or \$160,000 for the year 1919, was a proper and sufficient amount set aside as a reserve for depreciation.

9th. For this, that the Master found, as shown on page 19 of his report, that the total expenses of the company for the year 1919 were \$1,204,262, and that its total revenue was \$908,258, showing that the company operated its property in the Houston telephone exchange for the year 1919

at a loss of \$306,204.

Whereas, the Master should have found, decided and reported that the expenses of the plaintiff in operating the said Houston telephone exchange in the year 1919, after allowing the proper depreciation reserve, were not in excess of \$1,000,000, and that many of the items making up such amount were excessive and that others should have been wholly disallowed and that the plaintiff company, not having disclosed all the revenues resulting from the operation of the said Houston exchange, that it was impossible to determine the amount of such revenues, and for that reason unable to determine what the net earnings of such plaintiff company was, for the year 1919, in the operation of its Houston exchange.

10th. For this, that the Master found, decided and reported, as shown on page 20 of his report, that anything less than 8 per cent return on plaintiff's property would be confiscatory.

Whereas, the Master should have found, reported and decided that a return of as much as 6 per cent on the value of such property would not be confiscatory.

11th. For this, that the Master found, as is shown on pages 20 and 21 of his report, that the plaintiff company is not estopped by subdivision "E" of Section 1 of the Merger Ordinances of 1915 to make a claim for a fair return on its property, fixing the value thereon on any theory other than the cost thereof.

Whereas, as shown by the evidence, the Master should have found, decided and reported that the plaintiff company was so estopped by reason of the said subdivision of said merger ordinance from claiming a return on any value other than the original cost of its property.

12th. For this, that the Master found, reported and decided, as appears on pages 21 and 22 of his report, that the plaintiff company is entitled to be heard in a court of equity and to the relief sought therein.

Whereas, the Master should have found, decided and reported, that, as shown by the evidence, the plaintiff company did not make such a full and complete disclosure in regard to its revenues and particularly in regard to the amount which would be deducted from the value of the property of the Houston telephone exchange on account of the additional use and service such property was put to by the plaintiff company in earning other revenues, to-wit, its long distance tolls; and on account of the said plaintiff company failing to disclose the result of its financial dealings with the Western Electric Company and the profits resulting therefrom, involving the purchase by the plaintiff from the Western Electric Company of large amounts of property equipment and supplies, both the plaintiff and the said Western Electric Company, as appears from the evidence, being owned by the same company, to-wit, The American Telegraph & Telephone Company, in the following manner, that is to say, that the said American Telegraph & Telephone Company owned practically all of the stock of both the plaintiff company and the said Western Electric Company, and the Master should have further found that the said plaintiff company was not entitled to relief in a court of equity, because it made no effort to do equity and has not come into the court with clean hands.

13th. For this, that the Master found, decided and reported, as appears from pages 22 and 23 of his report that the rates fixed by the ordinances of 1909 applied under present condition to prevent plaintiff from obtaining a fair return on the value of its property used and useful in rendering telephone service in the City of Houston, Texas, and

that such rates are, therefore confiscatory and that the enforcement of said ordinance under such conditions should be enjoined.

Whereas, the Master should have reported that on account of the fact that the plaintiff company had not made a full and fair disclosure of its affairs, and particularly had not shown that the telephone exchange of the City of Houston was credited with the proper and sufficient part of the toll earnings and no disclosure was made as to the extent to which the value of the property used by the plaintiff company in furnishing the telephone service in the City of Houston should be reduced on account of such additional service and use to which the said property was put in earning the toll revenues and further that it had not made a disclosure of the profits realized by the parent company. The American Telegraph & Telephone Company, which owns the plaintiff company in the manner above stated, on account of the purchases of the equipment and supplies from the Western Electric Company, which is also owned by the said American Telegraph & Telephone Company, in the manner above quoted."

The exceptions came on to be heard by the court and Exception No. 11 was by the court sustained and the amount upon which the plaintiff company was entitled to receive a return was by the court fixed in the amount actually invested, which the court found to be the sum of \$4,691,567, instead of \$6,003,000, as found by the Master. In all other material respects the exceptions of the defendant to the special master's report were overruled. (Record pp. 50-59.)

The City of Houston assigned errors to the judgment and presented a petition for appeal, which, on November 15th, 1920, was granted by the Honorable George Whitfield Jack, Judge of the District Court of the United States for the Western District of Louisiana, who presided at the trial of said cause, and this cause was thus brought to this court for review. (Record pp. 61-65.)

ASSIGNMENTS OF ERRORS.

FIRST ASSIGNMENT OF ERROR.

"The Honorable District Court erred in holding and finding that the plaintiff, Southwestern Telegraph & Telephone Company, has invested in the Houston exchange, as shown by its books, the sum of \$4,671,567, upon which it is entitled to earn a return, for the reason that the proof shows that in the said amount so shown by the books there was included a very considerable amount of property used exclusively in handling long distance tolls; and, further, that the sum of \$700,000 was not being used and was not useful in rendering telephone service to the people in the City of Houston who were subscribers to such service."

SECOND ASSIGNMENT OF ERROR.

"The Honorable District Court erred in sustaining against defendant's Exception No. 6 thereto, the report of the Special Master, approving and division of the receipts derived from the long distance calls originating in the exchange of the City of Houston, whereby only 25 per cent of such receipts were credited to the local Houston Exchange and added to its receipts, for the reason that the proof showed that such 25 per cent would not pay the expense incurred by the said exchange in the City of Houston in handling such long distance callss, and the plaintiff which owns both the local exchange and the long distance lines, both of which were engaged in handling such long distance calls made no attempt to show to what extent the local exchange property was valuable in handling such long distance and to what extent it should participate in the profits derived from handling such long distance calls."

The said Exception No. 6 was as follows:

"6th. For this, that the Master has found, decided and reported as appears on page 13 of his report that 25 per cent of the toll revenue collected in Houston, which the company credits to the Houston exchange, as owners of such exchange, is a fair allowance to such exchange to cover

its part in the operation of the toll lines and for billing and collecting the toll accounts.

"Whereas, the Master should have found that all the property of the Houston exchange was in addition to the service it furnished to local subscribers, being also used jointly with the toll lines of the plaintiff company, to earn a large amount of tolls, same being for the year 1919, approxmately \$400,000 and that the value of the property of the Houston exchange, used and useful for furnishing local telephone service in the City of Houston, should be reduced by the proportionate use of such property in handling such long distance tolls, and should have further found, decided and reported that 25 per cent was not a sufficient amount to be credited to the revenues of the Houston exchange, but that at least 60 per cent of such toll collections should be credited to such Houston exchange." (Record p. 46.)

Said exception was by the court overruled.

THIRD ASSIGNMENT OF ERROR.

"The Honorable District Court erred in overruling defendant's Exception No. 7 to the Special Master's Report. and in approving the report of the Master that the 41 per cent of the gross revenues of the Houston Exchange, paid to the American Telephone & Telegraph Company, under what is known as the A. T. & T. License Service Contract, whereby the American Telephone & Telegraph Company collects from the exchange in the City of Houston 44 per cent of its gross earnings in payment, as claimed by the American Telephone & Telegraph Company for certain instruments furnished and certain service claimed to be rendered such Houston Exchange under said contract, was a legitimate operating expense to be deducted from the earnings of the local Houston Exchange, because the proof showed that the American Telephone & Telegraph Company owns ninety-nine and a fraction per cent of the stock of the plaintiff, the Southwestern Telegraph & Telephone Company, which operates the Houston Exchange and only the cost of such service should be deducted from the revenues and charged to the expense of operation, and there was no attempt made by the plaintiff to show the cost or rental value of the instruments furnished, or the

cost of the service claimed to have been rendered the Houston Exchange."

Said Exception No. 7 was as follows:

"7th. For this, that the Master found, decided and reported, as appears on page 17 of his report, that the charge of 4½ per cent on certain gross receipts of the Houston Exchange, amounting to approximately 85 per cent of the total gross receipts of the Houston exchange, which is paid to The American Telegraph & Telephone Company in payment for certain services and the use of certain instruments owned by The American Telegraph & Telephone Company, and leased to plaintiff company, was a proper operating charge against the said gross income received by the plaintiff company from the operation of the Houston telephone exchange.

"Whereas, the Master should have found, decided and reported that the cost of said services and the use or rental of said instruments was not shown by plaintiff and that for this reason the said charge should have been either greatly

reduced or wholly disallowed." (Record p. 47.)
Said exception was by the court overruled.

FOURTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in approving against defendant's Exception No. 8, that the allowance was excessive, the report of the Special Master, allowing the plaintiff as a reserve for depreciation a rate of 6.33 per cent on \$4,671,567, the value of the property as found by the court, for the reason that such a rate is excessive, the weight of the evidence showing that \$4.00 per station or 4 per cent annual annuity was sufficient to create a proper reserve for depreciation."

Said Exception No. 8 was as follows:

"8th. For this, that the Master found, decided and reported, as shown on pages 17 and 18 of his report, that it was the right and duty of the plaintiff, in order to enable plaintiff to replace its property used and useful in the Houston telephone service, when it should come to the end of its useful life, and to take care of wear, tear, rust, rot, obsolescence, inadequacy changes in the art, business demands requirements and casualties, the sum of 6.33 per cent upon the value, new, of the physical property, or \$348,150 for the year 1919, as a reserve for depreciation.

"Whereas, the Master should have found, decided and reported that 4 per cent upon the value, new, of the physical property at a valuation of \$3,000,000, or \$160,000 for the year 1919, was a proper and sufficient amount to set aside as a reserve for depreciation." (Record p. 47.)

Said exception was by the court overruled.

FIFTH ASSIGNMENT OF ERROR.

The Honorable District Court erred in overruling defendant's Special Exception No. 10 to the Special Master's Report, and in approving such report and finding of the Master, that the plaintiff should receive a return of 8 per cent upon its capital invested in the exchange in the City of Houston, and that any rate of return less than that would be confiscatory, for the reason that such rate of 8 per cent is much in excess of the legal rate, which is 6 per cent, as fixed by the Statutes in the State of Texas, and as disclosed by the proof is much in excess of the generally prevailing conventional rate on well secured loans in the community, and much in excess of a rate that could be deemed confiscatory within the meaning of the Fourteenth Amendment of the Constitution of the United States."

Said Exception No. 10 was as follows:

"10th. For this, that the Master found, decided and reported, as shown on page 20 of his report, that anything less than 8 per cent return on plaintiff's property would be confiscatory.

"Whereas, the Master should have found, reported and decided that a return of as much as 6 per cent on the value of such property would not be confiscatory." (Record p. 48.)

Said exception was by the court overruled.

SIXTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in overruling defendant's Exception No. 12 to the Special Master's report, and in not holding that the plaintiff had failed to do equity and had no standing in a court of equity, and in failing to dismiss plaintiff's bill for want of equity for the reason that it appears from the proof and from the findings of the Master, and the findings of the Trial Court that The American Telephone & Telegraph Company owns practically all of the

stock in the plaintiff's company, namely the Southwestern Telegraph & Telephone Company, which operates the local exchange in the City of Houston, and also practically all of the stock of the Western Electric Company, which manufactures the greater part of the supplies and equipment that are used in the extension and the operation of said local exchange, and the plaintiff made no full or fair disclosure as to the prices charged and the profits realized by the Western Electric Company, on the supplies and equipment so furnished to such local exchange, and upon which prices the rate of return to plaintiff is sought to be based, but it was affirmatively shown from the evidence that the said Western Electric Company, on the supplies and equipment furnished the Houston Exchange, charged excessive and exorbitant prices upon which prices it is basing the rate of return on its property, to be collected from the subscribers to the service furnished by said exchange to the people of the City of Houston."

Said Exception No. 12 was as follows:

"12th. For this, that the Master found, reported and decided, as appears on pages 21 and 22 of his report, that the plaintiff company is entitled to be heard in a court of equity

and to the relief sought therein.

"Whereas, the Master should have found, decided and reported, that, as shown by the evidence, the plaintiff company did not make such a full and complete disclosure in regard to its revenues and particularly in regard to the amount which would be deducted from the value of the property of the Houston telephone exchange on account of the additional use and service such property was put to by the plaintiff company in earning other revenues, to-wit, its long distance tolls; and, on account of the said plaintiff company failing to disclose the result of its financial dealings with the Western Electric Company and the profits resulting therefrom, involving the purchase by the plaintiff from the Western Electric Company of large amounts of property, equipment and supplies, both the plaintiff and the said Western Electric Company, as appears from the evidence, being owned by the same company, to-wit, The American Telegraph & Telephone Company, in the following manner, that is to say, that the said American Telegraph & Telephone Company owned practically all of the stock of both the plaintiff company and the said Western Electric Company and the Master should have further found that the said plaintiff company was not entitled to relief in a court of equity, because it made no effort to do equity and has not come into the court with clean hands." (Record p. 48.) Said exception was by the court overruled.

SEVENTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in not holding that the plaintiff had no standing in a court of equity and in failing to dismiss plaintiff's bill, for want of equity, because it appears from the evidence that the plaintiff owns not only the local telephone exchange in the City of Houston, but also the long distance lines connecting with such exchange and that all the expense of handling the long distance calls is charged to the local exchange, including its operating expense, and that large sums are received as tolls for long distance calls, which are handled by both the local exchange and the long distance lines and no attempt was made by the plaintiff to effect a division of such receipts between the local exchange and the long distance lines in any fair or equitable manner based upon the amount invested by each. or the services performed by each, or upon any other basis with a view of accuracy, but the plaintiff merely arbitrarily apportioned to the said local exchange only 25 per cent of the receipts for outgoing calls."

EIGHTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in not dismissing plaintiff's bill for want of equity, it appearing that The American Telegraph & Telephone Company, which owns practically all of the stock of the plaintiff company which operates the local Houston Exchange, arbitrarily deducts from the earnings of the local exchange 4½ per cent of its gross earnings, without attempting to show what it costs it further appearing that the plaintiff, which, under the to supply the service for which the 4½ per cent is taken, and domination of The American Telephone & Telegraph Company, pays to the Western Electric Company practically all of the stock of which is owned by The American Telephone &

Telegraph Company, 4 per cent on all purchases of supplies and equipment, purchased by the local exchange without attempting to show what the cost of such purchasing agency is, thereby making it impossible to determine the revenues and expenses of the local Houston exchange."

NINTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in holding that the ordinances of the City of Houston, prescribing the rates that could be charged for telephone service in the City of Houston were confiscatory and violated the Fourteenth Amendment to the Constitution of the United States, and in rendering judgment, enjoining the defendant from enforcing such ordinances, because it was impossible to determine from the evidence what the revenues received by the plaintiff from the operation of the Houston Exchange were or what the expenses incurred in the operation of such exchange were."

QUESTIONS INVOLVED

While there are several assignments of error raising minor questions, the principal propositions upon which the appellant City of Houston relies, are that:

(1). On account of the failure of the telephone company to make any fair or proper division of the expenses incurred in and the revenues received from the long distance tolls which the local exchange assists in handling, and on account of the failure of the plaintiff to disclose the profits realized from the purchase of material and supplies from the Western Electric Company in the operation of the local Houston exchange by The American Telegraph & Telephone Company, which practically owns both the Houston exchange and the supplier, the Western Electric Company, it is impossible to ascertain even approximately the net return or earnings received by the plaintiff from the telephone service furnished to the citizens of the City of Houston and

(2). It appearing that The American Telegraph & Telephone Company owns both the Southwestern Bell Telephone Company, which operates the local Houston exchange, and

also the Western Electric Company, from which the greater part of the material and supplies used in operating such local exchange are purchased, and no fair disclosure of the profits on such material and supplies having been made, but the proof affirmatively showing that such profits were grossly excessive, the plaintiff Southwestern Bell Telephone Company had no standing in a court of equity, and its bill should have been dismissed for want of equity.

BRIEF OF ARGUMENT ON ASSIGNMENT OF ERROR No. 1, RELATING TO THE COST OF THE PROPERTY.

(Record p. 62; this Brief p. 11.)

The cost of plaintiff's property used in the local Houston exchange, as found by the court, was \$4,691,567. The plaintiff's accountant testified that it was \$4,810,385.40. (Record p. 75.) The difference is practically accounted for by the court's reduction of the amount of working capital. (Record p. 55.) The cost of the property included \$754,000 in cost of the property as set up by plaintiff's accountant, and as found by the court, included \$754,000, known as intangibles, being the difference between the price paid by the plaintiff for the Home Telephone Company's properties and the physical value of the property so purchased now in use, plus the amount of salvage, which difference is carried as intangible capital. (Record pp. 70 and See also plaintiff's Exhibit No. 10, Record p. 102.) appears from the foregoing that of the cost and value of said property, as found by the court, the sum of \$754,000 is not used or useful in furnishing telephone service in the City of Houston and it is submitted that for such reason this amount should be deducted from the cost found by the court. Simpson vs. Shepard, 230 U.S. 434; 57 Law Ed. 1156; Smyth vs. Ames, 169 U.S. 545; 42 Law Ed. 849.

BRIEF OF ARGUMENT IN SUPPORT OF SECOND ASSIGNMENT OF ERROR, RELATING TO THE LONG DISTANCE TOLLS.

(Record p. 62; this Brief p. 11.)

There is no public service commission in the State of Texas, and all public utilities except railroads are unregulated as to rates, except such regulations as may be prescribed by the municipalities, so the plaintiff company is not regulated in the matter of rates that can be charged for its toll or long distance service.

The appellee, Southwestern Bell Telephone Company, in addition to furnishing telephone service to the citizens of the City of Houston, owns and operates a great many local exchanges throughout the State of Texas, and also nearly all the long distance lines in the State which connect with lines without the State. All the property used in opreating the local Houston exchange is also used in handling the long distance tolls. It initiates the greater part of the tolls and terminates nearly all of them. It houses the long distance equipment. All the expenses of handling the long distance tolls, except possibly the maintenance of the property used exclusively for long distance toll purposes, are charged to the local exchange and included in its operating expenses. This will more clearly appear from the following testimony:

DIVISION OF TOLLS

F. M. Hoag, a witness for plaintiff, testified as follows: Cross-examination.

Questions by Mr. Howard:

Q. Mr. Hoag, in making this inventory, just what property in the City of Houston belonging to the Southwestern Telegraph & Telephone Company did you exclude?

A. The property not used or usable for telephone pur-

poses.

Q. Briefly, what was that?

A. That was the Houston Home Telephone Company lot and building, the lot and building acquired by the Southwestern when they took over the Houston Home Telephone Company in Houston Heights at Harvard and 5th. A small lot, 20x20, which was a storeroom lot owned by the Houston Home Telephone Company, and the old Taylor central office lot and building at the corner of Center and Taylor streets. Those three pieces of property. I also excluded all the dead drops. That is the wire that is not connected to working telephones, and also the wire in the buildings that are not connected to working telephones, and in residences, it being our practice in our accounting system to charge that part of the property off at the time the telephone is disconnected.

Q. Anything else excluded?

A. The transmitters, receivers and induction coils, which are not the property of the telephone company, the Southwestern Telephone Company. Also the furniture and fixtures used by the district men who have their headquarters here in Houston was excluded, in that those men have no supervision over the Houston exchange.

Q. Anything else?
A. I think that is all.

Q. My question involved all property owned by the Southwestern Telegraph & Telephone Company located in the City of Houston.

A. Yes, sir.

Q. You have overlooked, I believe, long distance—A. (Interrupting). Yes, sir, I was considering the Houston local exchange property.

Q. I said all the property of the Southwestern.

A. Yes, sir, all the long distance property has been excluded, and that is long distance switchboards, the toll underground cables, the toll poles and wires and cable boxes, all parts of the long distance plant, including the toll test boards and telegraph equipment and other associated apparatus.

Q. That property, of course, is all owned by the same company?

A. Yes, sir.

Q. And is just a difference in the way you inventory and the account you charge it to, and all that?

A. Yes, sir.

Q. Matter of classification and segregation?

A. Yes, sir.

Q. Has the property you excluded as performing long distance toll purposes been used exclusively for long distance toll service?

A. Yes, sir.

Q. And you have not undertaken to exclude from the inventory any property that is jointly used by the long distance service—for the long distance service and the local exchange service?

Every telephone in Houston connected to the Houston Exchange might be used for long distance purposes, as well as local purposes.

In fact, it is used? Q.

A great many of them are; yes, sir. A.

Q. You inventoried, of course, all those lines and those exchanges?

A. Yes, sir.

Q. And those lines leading to individual telephones? A.

Yes, sir.

Q. You included all the buildings, the exchange buildings?

A. Yes, sir.

Q. Four of them, I believe, in this city? A. Three central office buildings.

Q. And another exchange, isn't there?

The Capitol central office equipment is housed in the Preston central office building. There are four central offices, but three central office buildings.

All those central office buildings are used by the long

distance tolls?

In that long distance calls, when completed over a subscriber's telephone, passes through the central office equipment in those buildings; yes, sir. Q.

The buildings house the long distance equipment,

don't they?

There is no long distance equipment in the Taylor central office building, nor in the Hadley. All of the long distance switchboards and equipment is in the Preston central office building.

Q. Housed in the Preston building?

A. Yes, sir.

It is necessary that they have a home for this long distance toll apparatus? A.

Yes, sir.

And that apparatus is quite considerable, and quite Q. expensive?

Yes, sir.

The business done and revenues received from the long distance service is very extensive, and amounts to a great deal of money in the course of a year?

Yes, sir.

If the earnings were pooled of the long distance service and of the local exchange, the long distance service originating here, and formed one general fund, have you any idea about what proportion the revenues received from the long distance service would bear to the whole fund?

- A. No, sir; that is an accounting matter.
- Q. That you didn't go into?
- A. I cannot answer it.
- Q. Who handles that branch of the matter?
- A. Our auditor.
- Q. Can you give me the name of the man that probably handled it?
 - A. Mr. Scott.
- Q. Then, I believe you say that a great many of the lines, in fact, all the lines, the individual exchanges, the individual telephones are all ready to receive long distance service, and to carry on and transmit a long distance call to the subscriber, and do it whenever the subscriber has a long distance call.

A. The telephone company has for years advertised to the effect that each telephone is the center of the system. There are over seventy-eight thousand places in the United States that can be reached from any local telephone connected with the Houston exchange.

Q. And they are a part and are used in that long distance service, and help to produce the long distance revenue, every individual telephone?

A. Yes, sir.

Q. Depending, of course, on the number of calls the particular individual subscriber receives. Some are very active in handling and carrying on long distance service?

A. Yes, sir, however-

Q. (Interrupting.) And some are very seldom used for that purpose?

A. Yes, sir, however—

Q. (Interrupting.) But all of them are equipped and

ready for that service at all times?

A. Yes, sir; but if this is a proper answer to your question: The development of the local telephone rate was carried on simultaneously with the development of the local telephone exchange.

Q. I don't know that I just get what you mean.

A. The rates for local telephone service were developed as the local telephone exchange was developed. The rates for long distance service was developed along with the development of the long distance lines, and in my judgment the rate for a long distance call is between the long distance switch-boards.

Q. It should be?

A. Yes, sir.

Q. But, in fact, it is not. It is from the originating indi-

vidual subscriber, say in San Antonio, to the individual subscriber in Houston to whom the message is transmitted.

A. In my judgment; no sir. My opinion is that rate is from the long distance switchboard in San Antonio to the long distance switchboard in Houston.

Q. In other words, it is chargeable only and properly to the long distance?

A. Yes, sir. And those earnings are necessary to carry

the long distance calls.

Q. In that event the service of continuing these calls, transmitting them and carrying them to the long distance central office, and delivering them from the long distance central office in Houston to the subscriber is in the nature of a donation by the local exchange to the toll service?

A. Not by any means. The local exchange is credited with a precentage of the long distance earnings, which per-

centage is intended to cover-

Q. (Interrupting.) That refutes your answer of a moment ago, doesn't it?

A. No, sir.

Q. That is what I thought was done—both service are recognized in making up the grand total of that charge?

A. If I can finish my answer, I think I can make it clear

to you.

Q. I think it is clear. My idea is clear. I would like to

get yours.

A. The earnings from the long distance lines—that is, a percentage of those earnings is credited to the local exchange.

Q. Exactly.

A. That, in the case of Houston, being 25 per cent.

Q. We will get to that 25 per cent later.

A. That 25 per cent cares for the cost of completing

those long distance calls in the Houston exchange.

Q. That is what we will want to ascertain later on, whether it does, or not. It is just facts I am getting at. Not whether or not it is a correct conclusion. But at any rate, the fact I am getting at, every individual telephone is available for handling long distance calls?

A. They advertise that fact and are proud of it.

Q. And you do it?

A. Yes, sir.

Q. And they are used?

A. Yes, sir.

Q. That is the practice and custom?

A. Yes, sir.

Q. The local exchange buildings are carried in the in-

ventory as you do here—they house the long distance equipment?

A. The Preston central office building does.

Q. Has offices where the long distance management is conducted and carried on?

A. But in apportioning the furniture and fixtures— Q. You are getting into that accounting business—

Mr. J. D. Frank (interrupting): Let him answer the ques-

tion and he will explain it.

A. In the inventory we only apportion a portion of the furniture and fixtures used in the handling of the business of the Houston Local Exchange.

Q. I caught that as you went over it before.

A. Yes, sir.

Q. But, nevertheless, the building itself is used by the general officers, a part of which is the management of the long distance service?

A. Yes, sir; we apportioned the office furniture and

the fixtures.

Q. I understand you did in your inventory, the fixtures and the furniture?

A. Yes, sir.

Q. But you did inventory the entire building?

A. Yes. sir.

Q. And inventoried it as the property used in the local service?

A. Yes, sir.

Q. And you inventoried every individual or local telephone?

A. Yes, sir.

Q. Substantially?

A. Yes, sir.

Q. And every sub-station?

A. Yes, sir.

Q. As the property in the local service?

A. Yes, sir.

Q. You didn't undertake to set aside or apportion any part—I know you couldn't in kind, but in percentage—the part of that equipment that goes to long distance service and the part that goes to local service?

A. All of the property inventoried in the Houston exchange is necessary in the rendering of local telephone serv-

ice in the Houston exchange.

Q. It is also necessary, is it not, in rendering first-class up-to-date long distance service?

A. Yes, sir; just like local service.

Q. It is to the joint interest of both of them?

A. Yes, sir.

Q. All this wiring and local sub-stations, and conduits and all this splicing, and poles, and everything of that kind is a joint enterprise, and they are used in that way, so when it becomes a matter of accounting, which I understand you didn't go into, to try to segregate and show how much of the property is used on one, and used on the other, if you had to make a division between the two as to earnings and expenses?

A. No, sir; the answer to that is the answer which I gave you just previously, which is to the effect that all of the property inventoried in the Houston exchange is necessary in the rendering of local telephone service in Houston.

There could be no sub-division made.

Q. You answered the question a while ago that it was all necessary also to an up-to-date, first-class long distance service. You couldn't have a first-class long distance service in this city today without those very things that are being used in the local service?

A. We couldn't have any long distance service in Hous-

ton without telephones.

Q. That is very true; there is no question about that, is there?

A. No, sir.

Q. The local exchanges are the feeders and the revenue producers for the long distance enterprise; are they not?

A. To a great extent; yes, sir.

Q. That is, you could, in the old days, before they had many local exchanges—I guess you and I remember when the telephone came into existence?

A. Yes, sir.

Q. And the telephone would run through a town and the people would go in there and talk over the long distance exchange, and would get their messages in that way, and it was used very seldom; very extraordinary for a man to use long distance telephone service before they had exchanges?

A. Yes, sir.

Q. And then as the business progressed and the exchange were built up, and people began talking to their neighbors and to their wives, and then they began to feed the long distance lines?

A. Naturally the easier you make it for people to talk long distance, the greater the amount of business you get

from them.

Q. So then, we get back to the original proposition that they are mutually beneficial to one another, the long dis-

tance helping the local exchange, and the local exchange helping long distance. That is true, isn't it, Mr. Hoag?

A. Yes, sir. But I wish to reiterate that the proper inventoried is all necessary for the local telephone service.

Q. I know that; that is obvious. But at the same time it is just as obvious that it is necessary for the long distance service?

A. It is necessary for long distance service, although long distance service can be rendered without the local tele-

phone exchange.

Q. And it is also true that a good local service could be carried on in the community without the long distance service?

A. Yes, sir; that is true.

Q. It comes right back to the point that they are mutually beneficial, one to the other?

A. Yes, sir. (Record pp. 149-155.)

A. E. Scott, a witness for plaintiff, testified as follows: Cross-examination.

Question by Mr. Howard:

Q. Mr. Scott, in arriving at your expenses in operating this exchange, you primarily, upon your books, set up all expenses, including the taking care of the toll?

A. Yes, sir.

Q. Then how did you get the toll expenses out of the

general operating expenses?

A. We don't take them out of it, in the making up of my figures, I attempt to get away and do get away from estimates as much as possible, my figures are actual expenses, and we have—I know we have in our expenses all our toll expenses.

Q. You have all your toll expenses?

A. Yes, sir; but to offset that we put in this 25 per cent revenue, which is the usual revenue allowed to other companies—and that allowance is there.

Q. Have you any way of telling or determining what additional expense you are put to in the way of operating by

handling this toll charge?

A. I have never made any figures which would tell what the operating expenses were for the toll business, the two are so interlocked that the only way to get at it would be by making arbitrary estimates and making prorate of the various accounts, a very involved proposition, and very inaccurate when finished.

Q. You would not undertake to say that even 25 per

cent would pay the additional cost of taking care of the toll traffic?

I would take into consideration the fact that taking that 25 per cent basis, with companies in Texas that 25

per cent would be about right.

I am talking about your books, you are here as an accountant and not as an advocate for the company, I take it?

Well, I haven't made any study as to whether that

is right or that is wrong.

Q. You don't know? No, sir; I don't know.

Well, aren't your books so kept that it is possible to segregate the toll expenses from the general operating expenses?

A. No, sir; the two are so interlocked that you could only get the toll expense out by, as I said before, by arbi-

trary estimates, by prorates.

Then the proposition is, as I understand it, you come here with a lot of intermingled accounts, some of which are occasioned by the local exchange, some of which are occasioned by handling the toll traffic, and say we have had so much expense, but to offset that, why, we will pay you

25 per cent on the outgoing toll charges?

Well, the fact that the figures are so intermingled and the fact that I am dealing with the records of the company, as shown by the books, is my reason for handling it in this way; it is more satisfactory to make one estimate, if you want to call the 25 per cent an estimate, than to take something out of one account and another account and all the accounts that would be involved.

Well, you cannot tell us from your books how much of these general expenses was occasioned by the taking care

of the toll charges?

No, sir, the books don't show a division between toll and the exchange expense as in regard to the use of expense; of course the toll expense in connection with the plant outside of Houston is kept as a toll expense and not included in any of my figures-that is purely toll expense; but common expenses are all included in my figures.

Isn't it susceptible of determining every expense occasioned by any one telephone call, that you can take a telephone call as a unit and ascertain the expense of that

call?

Well, that would be simply an estimate, you try to A. deal with a unit as small as a telephone call, you are getting down to a very small item, you will find you cannot confine it to that one particular thing; in connection with your toll business you have your overhead, just the same as you have with your exchange business; you might in that one direct case, on that particular call, but that does not end the proposition—you have got building expense, for example, you have got your toll property, property in the same buildings with your exchange property, you have got to prorate there or make an estimate of some kind; and so it goes all along the line, all kinds of estimates and prorates would have to be worked up in order to get a figure that would be presumably correct—and then you would not be able to say it was absolutely correct, it would be a matter of opinion of the men who were making the estimate.

Q. As to that item of toll expenses, then, we have got to remain in the dark?

A. Well, I think the allowance of 25 per cent being-

Q. (Interrupting.) Well, I understand, you have told me the 25 per cent.

A. That is accepted by seven hundred companies in Texas and appears to be satisfactory.

Q. Well, are these toll companies—you are speaking of—independent companies?

A. Yes—that is, all the different companies throughout the State that make any connections with us.

Q. Are there seven hundred different telephone companies in Texas?

A. Yes, sir.

Q. Seven hundred local exchanges?

A. Well, I say seven hundred local—there are seven hundred companies that do some long distance business and who have contracts with us on this 25 per cent, or 12½ per cent basis, or some similar proposition.

Q. In these cases the Southwestern controls the long dis-

tance toll line?

- A. No, indeed not; a great many of them, the little companies in one particular have toll lines themselves, are connected with us at some point—perhaps at this exchange or some other point; in some cases their own toll lines run into our board.
- Q. But in most cases where you have got this arrangement there is no long distance toll line owned by the local company?

A. Probably every local company has some toll lines.

Q. It has some? A. It has some.

Q. But then in order to get in connection with the out-

side world they necessarily have to use a long distance line

of the Southwestern company?

Well, not necessarily; the Mackay people are down there, the Postal people are here, the Western Union Telegraph, they all have a line.
Q. What proportion of it; have you any idea?

No, sir; I don't know.

Well, that is all. (Record pp. 147-149.)

(A. E. Scott, a witness for plaintiff, cross-examination.) Q. So, then, in short, the way this thing is set up on the books a part of the local and a part of the tolls are confused in that they are inseparable and a small part of it, maintenance and some taxes and the operators that are working where there are independent exchanges are not allocated, and, then, instead of trying to carry the scheme of allocation all the way through, so far as the expenses are concerned, and so far as the plant investment is concerned, why you just allocate this 25 per cent as a sort of an offset of compensation?

It is a compensation in lieu of the expenses incurred

by the exchange in performance of toll work.

Q. Although you don't know upon what basis you could actually settle with the local exchange in regard to the expense?

Well, as I have said before, there is a number of com-

panies that are accepting that-

(Interrupting.) No, I am talking about the actual expense; you can't come here and tell us what the actual expenses are that this exchange incurs for handling the tolls?

A. No, sir; I can not.

You could not do that? A. No, sir; I could not.

Q. Then the 25 per cent is founded upon some sort of a guess or approximation?

It is not a guess or approximation, it is a special percentage made by ourselves with all our connecting lines and by connecting lines with-in their dealings with us.

And that make it sufficient to pay the cost, regard-

less of what the costs are?

A. It must be pretty nearly right or the other fellow would not take it.

That is your conclusion about it; you are an accountant, and your mind is supposed to dwell upon-

A. (Interrupting.) That is why I deduct the 25 per cent.

You mean you initiate this 25 per cent?

A. No.

Q. You take 25 per cent because the executives of this company tell you to take it?

A. But if I had not taken 25 per cent, I would have had

to make a lot of apportionment.

Q. What is your attitude towards this company, an accountant or a director of policies?

A. I have no attitude; I am an accountant.

Q. Then you could talk to me about the accuracy of your figures and bookkeeping without mingling it up with whether it is for the company or against the company; you can make those differentiations, can't you?

A. I think so.

- Q. Now, foregoing for the time being, what the policy of your company is, I am asking you whether this is an accurate conclusion and whether it has been arrived at with accuracy or whether it has an element of inaccuracy in it? That is a simple question, it is either accurate or it has an element of doubt, and inaccuracy.
- Mr. J. D. Frank: You assume there must be some inaccuracy in your question.

Mr. Howard: Well, if it is inaccurate he can tell me so.

A. If an allocation or a prorate—if the use of an allocation or a prorate means that your statement is going to be accurate or inaccurate, even my method of doing it or the method you are suggestion, either one, would be right or it would be wrong, because I have taken some allocations and I have not taken some that you are suggesting.

Q. Any allocation that you take, in other words, is but an

approximation?

A. It is an approximation. It is an estimate based upon

the best we have available.

Q. No, Mr. Scott, have you ever made any computations to find out; you have figured it out here what Houston is earning and you have probably figured out what all the different exchanges are earning, have you ever taken the trouble to take the earnings of the toll lines and the value of its property and its operating expenses and determine the annual return over and above all operation expenses, including maintenance and depreciation?

A. No, sir.

Q. Earned by the toll lines?

- A. I don't think that has ever been done, Mr. Howard. It has not been done by me and I don't believe anybody else has ever done it.
 - Q. It can be done, can't it?

I don't know whether it can or not. I don't think I would be able to do it.

You don't think you would be able to do it? Q.

Q. Well, now, let's see the process involved. The first thing you would get, the value of the toll lines, that would be comparatively easy to get, approximately correct?

No, that would be very difficult. It would mean an inventory and an appraisal of the toll lines throughout the

entire State of Texas.

Well, we will take it the way you have it on your books.

Well, I can't start out with that assumption. mean go to the books and find out what the amount on the books is for toll property?

You have got an inventory of your entire toll lines in

the State haven't you?

A. No, sir.

Is this company operating without having an in-Q.

ventory of its toll lines?

Yes, it took them about three months to take an inventory of the property here in Houston alone. We have no inventory of the properties in the State.

You haven't any inventory of the tool property in the

State?

A. No, sir.

How do you set up the number of poles you have?

That is simply accumulated record of a number of items, just like my books are and an accumulated record of an amount of money; that is not an inventory.

Do you mean to say, Mr. Scott, that this company is today not in position to tell how many poles it has in the

operation of its Statewide business?

A. It has a figure in the record of a number of poles which they think they have and I can tell you, Mr. Howard, on the side, that it is very wrong, the number on the record.

Well, then, how did they keep any account of their

business, if they have not any record?

The number of poles we have is not important. A.

Whether you have one hundred poles or a million? The number is not valuable. It is a nice statistical record and probably some department may have some use for it, but it is not important.

Q. So what you do know about what this toll equipment cost-

We have a record, the accumulated book record of the cost of the tolls property, that is the toll lines. We have the toll switchboard included on the books in our exchange

switchboard account. There is no separation there.

Q. Well, your books have been kept then so you can't separate the toll lines from the exchanges at all; you can't even give me an approximate amount of property that is invested in tolls as distinguished from local?

A. I said I can't tell the amount shown by the books of

the toll lines.

Q. Well, let's assume if we can get over this approximately, if you want to set it up that way, or get it from the books, just assume it can be done, it is human possibility. Then once we have the valuation we have got a start towards finding the earnings of the toll lines.

. Once you have the valuation, you have a basis to start

with, of course.

Q. Then the next thing is the amount of your earnings?

A. That is about all you want then.

Q. All right, well now, we have got too rather important steps in making this computation; now, the next thing that would concern us, would be our operating expenses, including maintenance and depreciation, would't it?

A. Before you could find your net returns, you surely

would have to determine what your expense was.

Q. Well, we deducted then, we get the operating expenses and we deduct it from our revenue, wouldn't we?

A. Yes, sir.

Q. What would be our next step. Then we have our net return in round dollars?

A. Yes, sir.

Q. Then, to reduce it to percentages, we would divide our net return by our capital investment?

A. Yes, sir.

Q. Now, have you any way of disputing the proposition that that computation, as Mr. Kelsey said, would amount to forty per cent on your toll line investment, as segregated and separated from your exchange property?

A. Mr. Kelsey is undoubtedly so far wrong—

Q. (Interrupting.) I know you think he is wrong.

A. We think he is wrong.

Q. You think he is wrong, but you have never done it.

Your mind can't grasp the idea?

A. It would be my opinion that—that if we were making forty per cent on our toll business we probably would not have any toll business; it would be more than the traffic would bear.

Q. But it would help the traffic mightly wouldn't it? If all the operating expenses were paid by somebody else

that would tend very largely towards making the toll lines

a handsome enterprise, wouldn't it?

A. If we had enough toll lines and would make one hundred or two hundred per cent profit on it, we could give exchange services free, Mr. Howard.

Q. Yes, and isn't that the reason what you claim-for

showing the deficit here since time began?

A. Because we have been giving service, not only free,

but for less than what it cost.

Q. And haven't you been giving what you call an apparent deficit, because, as a matter of fact, there was no real deficit and because the operation of this exchange was an auxiliary to the operation of the toll lines and that you are making money all the time out of the property in its dual capacity?

A. No, sir. (Record p. 142-146.)

Ninety-nine and a fraction per cent of the stock of the Southwestern Bell Telephone Company, which is the changed name of the Southwestern Telegraph & Telephone Company, is owned by The American Telegraph & Telephone Company, otherwise known as the Bell System. (Record p. 422.) The Bell system owns and operates four-fifths of the telephone business in the United States. (Record pp. 681 and 709.) In addition, it owns a large amount of stock, less than a majority, in other so-called telephone companies. In this situation the plaintiff company adjusts the expenses and earnings in the State of Texas between the local exchanges and the long distance lines, both of which are engaged in handling the long distance messages, by arbitrarily crediting the exchange with 25 per cent of the initial or outgoing calls.

This it does without any effort to arrive at what would be an accurate or a fair division of the tolls as between the local exchange and the long distance service; in fact, it appears from the record that it is impossible to separate these earnings, that is, to determine what percentage should be allowed to the local exchanges, based upon the property used for handling the tolls and the services performed in handling them. (Record pp. 142 and 143.) To justify this 25 per cent the plaintiff, the telephone company, introduced evidence of contracts with many other companies upon the

25 per cent basis. (Record p. 143.) It is submitted that in view of the conditions above detailed, that such evidence forms no criterion for determining the amount of revenue that should be credited to the Houston exchange by reason of its property engaged in and the service rendered in handling the long distance tolls. There is no freedom of contract and cannot be under conditions prevailing. In Houston, as in most other points in Texas, the same company owns both the local exchange and the long distance lines, and it is, of course, to its interest to have such earnings as it can appear in the service that is not regulated, and where there is no limit on the amount it will be permitted to earn. The contracts made with so-called independent companies, as will appear from the foregoing statement, are made where the local exchange is under the disadvantage of having to procure the long distance service upon such terms as the owner of the long distance will grant to them, or failing to accomplish such conditions, forego the use of long distance service.

It will be seen from the statement above set out that practically all the property of the local exchange is used in a dual service. First, furnishing local telephone service to the local subscribers; and, second, in handling the long distance tolls. It will be suggested that the City of Houston has no power to regulate rates outside its limits and that the earnings of the long distance lines cannot be taken into consideration in arriving at the earnings of the local ex-This would clearly be true if the local property was not used in earning the long distance tolls and it would perhaps be true if the ownership of the local exchange was different from that of the long distance lines, and had made a contract for the 25 per cent, no matter how unfair such contract might be, and regardless of the disadvantages the local exchange was under in entering into the contract, but here, where the ownership is the same and the local properties are used in producing the long distance revenues, it is not only just and proper, but legal, to have the long distance tolls divided upon a fair and, as nearly as possible, an accurate basis, and while it is further probably true that

all tolls should be regarded as long distance earnings, still the rate regulating body would have the right to make an adjustment by depreciating the value of the local property to the extent that it is useful or used in handling the long distance tolls. In other words, the capacity of the local property is not exhausted by furnishing the local service, but is also used in handling the long distance tolls, and the investment should be divided on a proper basis between the regulated local lines and the unregulated long distance lines. This, of course, would decrease the investment in the local exchange and thereupon decrease the amount of earning necessary to show a proper return. All expenses, except the maintenance of the toll lines in the City of Houston, are charged to the local exchange. (Record p. 147.) The record shows that the 25 per cent is not even enough to take care of the cost of handling it, to say nothing of a return upon that portion of the value of the property that is used in handling the long distance tolls. (Record p. 156.) This was testified to by Mr. Player, one of the plaintiff's witnesses. It was testified to also by defendant's witness, Mr. Lyndon, (Record p. 169.) But the local exchange should not be confined to the mere refunding of the expenses incurred by it if the long distance service shows profit. The local exchange and the long distance lines are in the nature of joint enterprises and the profits should be ratably divided according to the investment each has in the service which produces the profits. The plaintiff company took the position that the city had nothing to do with the long distance business and declined to make any disclosure of the earnings from such service, but it was shown by the defendant from statements taken from the books of the company that the long distance service was paying about 34 per cent. (Record p. 169.) This does not seem unreasonable when it is understood that all expenses, other than the maintenance of the toll lines, are paid by the different local exchanges throughout the State, for which such exchanges receive 25 per cent of the revenue, leaving 75 per cent of all the revenues as a return upon the bare long distance lines, with no expense other than the maintenance of such lines. The long distance

revenues initiated by the local Houston exchange during the year 1919, which seems to have been taken as a basis for determining the revenues and expenses incurred by the plaintiff company, was something over \$400,000. (Record p. 961.) About \$100,000 of this was credited to the local exchange. This would barely pay the expenses incurred. leaving the large sum of \$300,000, which was earned by the joint property of the local exchange and the long distance lines, with no showing as to what proportion of this should be allowed the Houston exchange. There should first be deducted the prorata portion of the expense of maintaining the long distance lines, and then the balance of this money should be divided between the Houston exchange and the long distance lines in proportion to the amount of property of each engaged in rendering the service. The burden is upon the plaintiff company to show confiscation and with large items like this unaccounted for, it is impossible to arrive at the earnings of the local exchange, and consequently, whether or not any confiscation appears. State vs. Public Service Commission (Missouri Supreme Court, 233) S. W. Rep. 431-2.)

BRIEF OF ARGUMENT IN SUPPORT OF ASSIGNMENT OF ERROR No. 3, RELATING TO THE A. T. &. T. 41 PER CENT, APPROPRIATED FROM THE GROSS REVENUES OF THE HOUSTON EXCHANGE.

(Record p. 63; this Brief p. 12.)

The appropriation of this 4½ per cent is made under what is referred to by the plaintiff telephone company as the Four and One-half Per Cent License Contract. However, the term "contract" is a misnomer. The American Telegraph & Telephone Company (which, for the sake of brevity we will hereafter designate as the A. T. & T. Co.) owns the Southwestern Bell Telephone Company in the sense that it owns 99 and a fraction per cent of its stock, and of course any contract between the two companies would reflect merely the desires and purposes of the A. T. & T. Co. In consideration of this 4½ per cent of the gross revenues so appropriated by the A. T. & T. Co., it furnishes what is known as the instrument service, same being the

use of little devices known as the induction coil, transmitter and receiver, and in addition to this, certain claimed general services, without any attempt to show what either of such services cost. (Record pp. 281-294.) The portion of this 41 per cent, so appropriated, which is absorbed by furnishing the little instruments above referred to, is sought to be arrived at in different ways, that is, the plaintiff company, for the purposes of this hearing, undertook to show the value of same by computing the return on the investment, depreciation, etc. In this it valued the set, consisting of the induction coil, transmitter and receiver, at \$5.70, showing in this way, according to its contention, that the service was of the value of \$28,541 per annum, leaving \$14,251 remaining of the 41 per cent so appropriated for the general services claimed to have been furnished, as above stated. (Record p. 340.) The city, however, contends that such valuation of the instrument service is much too high. It will be understood that this 41 per cent appropriation is not analyzed or classified at all as set up by the books of the company and they merely furnish these little instruments and preform or claim to perform certain general services and arbitrarily appropriate 41 per cent of the gross revenues. As stated, the only tangible thing included in the 41 per cent appropriation is the use of the induction coils, the transmitter and the receiver. These are cheap little instruments, the manufacturing cost of which is very small. The reasonable value of the service for furnishing these instruments, based upon a rental or upon allowing a fair return over and above maintenance, as testified to by defendant's witness, Mr. Lyndon, is approximately \$13,000 per year. (Record p. 470.) And as testified to by defendant's witness, Mr. Kelsey, \$11,700. (Record p. 491.) The 41 per cent charge upon the gross receipts amounts to approximately \$42,000 per year. (Record p. 340.) To account for this additional \$30,000, which is so deducted from the earnings of the Houston exchange, the plaintiffs brought down from New York City many witnesses. These witnesses have carefully worked out what they call an analysis of the work done by the A. T. & T. Co. for the local exchange owned by

them. In their testimony, which is to voluminous to permit of review, they deal in glittering generalities. (Record pp. 176 to 469.) It appears that they have quite a number of pamphlets bearing upon the telephone business, which they send out to the different exchanges and occasionally an engineer makes a trip to some of the local exchanges. They undertake to point out in several instances where they render service, such as saying that they look over the city and see in what way the plant should be developed and this, notwithstanding the fact that the local exchange has competent local engineers and also district engineers capable of doing the work. These witnesses have a carefully prepared line of testimony which they offer in rate hearings throughout the country. (Record p. 406 and 494.) As illustrative of the things they claim to do, we cite this instance: There is a bug that can bore or drill through the lead sheath which encloses the cable and at times does some injury to the cable. These witnesses have taken this bug in a bottle around to the different hearings, claiming that they are working upon a method to prevent the bug's operation. The injury done by this bug is trifling and becomes interesting only as a scientific study, but is illustrative of the practical work testified to by these witnesses. They had as witnesses on these hearings officers from two different telephone companies known as independent companies, who enlarge upon the benefits of this contract, but the proof shows that the A. T. & T. Co. owns 34 per cent of the stock in these two so-called "independent" companies. (Record p. 406-413.) All this testimony is very vague and indefinite and is in a general form only. (Record pp. 176 to 469.) It would support apparently a 25 per cent deduction from the gross earnings as easily as 41 per cent. There would seem to be no limit to an estimate of the value of the services performed. Viewed from the standpoint of the Bell employes, they are invaluable. Viewed from the standpoint of the independents, they are almost negligible. (Record pp. 469-519.)

However, our contention is that no matter how efficient these services may be or how valuable, it is not a question

of efficiency or value, but a question of the cost of furnishing them. The A. T. & T. Co. owns 99 and a fraction per cent of the stock in the plaintiff company, which operates the Houston exchange. It is to all intents and purposes the owner, for we take it the court is not going to look at the form of this matter and ignore the substance. So then, the cost is the only thing that should appear in the operating expenses which are deducted from the revenues. There is no reason why the A. T. & T. Co., which owns the operating company, should, in addition to the return that it receives from the payments made by subscribers to the telephone service, receive in addition thereto certain indirect revenues or profits through such agencies as it is here sought to have invoked. If these services are reasonable and necessary, the cost of same should be deducted from operating expenses, even though such cost is in excess of 41 per cent, and if the cost is less than the 41 per cent, still nothing but the cost should be deducted. This question, so far as we know, has never been acted upon by this court. It has been allowed by some commissions and rejected by others. The plaintiff company admits that it has made no effort to determine the cost of this service (Record p. 814), and we submit that the burden is upon it to do it before it can be deducted from operating expenses. This we do not consider a technical contention. If schemes such as this are to be permitted, there will be no way of checking the operating expenses. State vs. Public Service Commission (Missouri Supreme Court), 233 S. W. Rep. 432.

BRIEF OF ARGUMENT IN SUPPORT OF THE FOURTH ASSIGNMENT OF ERROR, RELATING TO RESERVE FOR DEPRECIATION.

(Record p. 63; this Brief p. 13.)

That the company is entitled to set aside out of its earnings a certain amount for depreciation, of course, is not denied, nor will it be denied that this amount should be ample to keep the investment at all times up to 100 per cent, or to replace the property at the end of its useful life. The dispute regarding this matter arises purely upon the amount necessary for this purpose. The Master made an allowance

of 6.33 per cent, based upon a valuation of \$5,500,000, upon all physical property except real estate and working capital. (Record-p. 41.) This amounted to \$348,150. The court modified this allowance (Record pp. 41 and 59), by using the same percentage but applying it to the cost of the property, making \$289,380 to be set aside annually as a reserve for depreciation. The testimony upon this subject is too voluminous to make it practical to undertake to review it. It will be found in the Record, pages 519 to 617. The percentage of 6.33 was the one assumed by Mr. Hoag. the chief engineer for the company. (Record p. ---.) Both Mr. Kelsey, who had more than 25 years practical experience in the telephone business, both as an operator of telephone exchanges and as a manufacturer of telephone equipment, says that \$146,000 per annum would be sufficient annual reserve fund. (Record p. 591.)

The record in this case shows that this local exchange is in 92 per cent condition, in other words, it lacks 8 per cent of being as good as new. (Record p. 1401.) But turning to the exhibit (Record p. 806), introduced by the plaintiff company, showing its realized depreciation, that is, the amount actually expended to keep the plant in its present high state of preservation, such realized depreciation is nothing like the large sum allowed by the court for this purpose and is so much less than that sum as to point to the irresistable conclusion that the annual allowance for a reserve for depreciation is much too high. It is true plaintiffs show an average of 6.8 per cent for the last eleven years, but this included the deferred betterments for the first eight years, when the plant was new and which were made in subsequent years, making the average for the whole period much less than 6.33 per cent.

BRIEF OF ARGUMENT IN SUPPORT OF ASSIGNMENT OF ERROR No. 5, RELATING TO RATE OR RETURN.

(Record p. 63; this Brief p. 14.)

The evidence of all but one of plaintiff's five witnesses concerning interests rates in the vicinity of Houston, and which will be found in the Record pages 619 to 660 is to the effect that loans upon business property in the community bear from 6 to 7 per cent. This should measure the maximum of a return, or 7 per cent, and is all that should be allowed by the rate-making body. There is, however, a distinction between a confiscatory rate and a fair rate. We feel safe in saying that no court or commission has ever held that a rate of as much as 6 per cent was confiscatory. City of Knoxville vs. Knoxville Water Co., 212 U. S. 1; 53 Law Ed. 371. Lincoln Gas & Elec. Co. vs. City of Lincoln, 230 U. S. 255; 64 Law Ed. 968.

It is true that in the last mentioned case it is suggested a return of 6 per cent might be confiscatory in a community where loans were made at 8 per cent and the "legal rate was 7 per cent," but here loans are made on good security at from 6 to 7 per cent, and the "legal rate is 6 per cent." Articles 4974 and 4977, Revised Statutes of Texas, which are as follows:

Art. 4974. "'Legal Interest' is that interest which is allowed by law when the parties to a contract have not agreed upon any particular rate of interest." Article 4977: "On all written contract ascertaining the sum payable when no specified rate of interest is agreed upon by the parties to the contract, interest shall be allowed at the rate of 6 per cent per annum from and after the time when the sum is due and payable."

BRIEF OF ARGUMENT IN SUPPORT OF ASSIGNMENTS OF ERROR NUMBERS SIX, SEVEN AND EIGHT.

(Record pp. 63-64; this Brief . 15-17.)

It is submitted that right at the threshold of this inquiry the plaintiff telephone company is met with the maxims that "he who seeks equity must do equity," and that "he who comes into a court of equity must come with clean hands." The plaintiff company has not shown itself in position to obtain relief from a court of equity for in at least two important matters it has failed to disclose its earnings:

(a) It has failed to show what proportion of the profits resulting from the use jointly of the local property and the toll lines was earned by the local property and should go into its revenues. We have discussed this quite fully in our Argument in Support of the Second Assignment of Error (This Brief p. 19-36.) to which we refer.

It has made no attempt, except in the most general way, to show the profits derived on account of its relationship with the Western Electric Company. The proof shows that the A. T. & T. Co. is the owner of 99 and a fraction per cent of the stock of the plaintiff company, the Southwestern Bell Telephone Company, which operates the Houston exchange. Also that the A. T. & T. Co. is the owner of the Western Electric Company, which is a manufacturing company engaged in manufacturing telephone equipment and supplies. (Record pp. 707 and 708.) The plaintiffs do not deny this, in fact, admit it, and the master has found that the A. T. & T. Co. owns practically all of the stock of the plaintiff company and the Western Electric Company. (Record p. 44.) This finding is approved by the court. (Record p. 56.) The A. T. & T. Co. in the same manner owns also the "Bell System" (Record p. 322), which does four-fifths of the telephone business in the United States. (Record pp. 681 and 709. The Western Electric Company furnishes the equipment and supplies to this system. (Record p. 705.) From this it will be seen under what difficulties competitors of the Western Electric Company operate. Of course competition is practically stifled. Under these conditions the only effort to make a disclosure of the profits received by the parent company, the real owner of the plaintiff company, vis.: The A. T. & T. Co., in furnishing equipment and supplies to the Houston exchange was the following:

One of the plaintiff's witnesses, Mr. Cox, an employee of the A. T. & T. Co., by whom it is sought to support the A. T. & T. Co. license contract of 4½ per cent, volunteered on cross-examination, but not in response to any question asked by defendant, that the profit made by the Western Electric Company was 8 per cent, but he furnished no data or expense bills or any other figures to support such conclusion. (Record p. 693.) Aside from this there was nothing other than the incidental and general statements by plaintiff's employees that the supplies and equipment were pur-

chased as cheap or cheaper from the Western Electric Company as they could be purchased elsewhere. Opposed to this slight testimony, the defendant city made proof that the profits realized from the manufacture of certain telephone equipment was enormous (Record pp. 490 and 491), and that competitors of the Western Electric Company, even considering the conditions they are forced to operate under, would furnish switchboards, which constitute a very considerable part of the property used in the telephone service, at a very much lower price than that at which they were purchased at for the local exchange from the Western Electric Company. (Record pp. 713-723.)

It will be remembered that by the Constitution and laws of the State of Texas the power to fix rates of public utility companies in the City of Houston is vested in the Council of the City of Houston. That body primarily has jurisdiction to determine and fix the rates to be charged by public utilities. Its action on such matters is presumed to be correct. City of Knoxville vs. Knoxville Water Co., 212 U. S. 1;53 Law Ed. 371. And before the jurisdiction of the court is invoked, it should appear that said body has refused to grant relief after a proper showing that relief should be granted. In fact, in what was known as the "Merger Ordinance", introduced in evidence (Record p. 765), it was specially agreed by the plaintiff company in 1915, in consideration of a merger with the Home Telephone Company that the plaintiff company would not increase its rates unless it appeared on a satisfactory showing, to be made before the City Council of the City of Houston, of all receipts and disbursements that a necessity existed for an increase in charges in order that said company might earn a return upon its capital actually invested in the Houston plant. However, in the absence of this agreement it seems obvious that before the plaintiff could invoke the aid of the court, it must have applied to the Council and made such full disclosure of its affairs as would enable the Council to determine whether or not the application for an increase in rates should be granted, and it appearing that the company was using its local property both in earning local revenues

and long distance tolls, a proper disclosure should be made regarding the profits resulting from the long distance service, based upon the property furnished by the local exchange, and that furnished by the long distance lines, and the services performed by both or either, and it appearing that the real owner of the local exchange was also the owner of a manufacturing company which furnished the equipment and supplies to the local company, a full and complete disclosure of the profits realized on such equipment and supplies should have been made. The City Council would be well within its rights in refusing to increase the rate until such disclosures were made, and failing to make such disclosure the plaintiff company, when resorting to a court of equity, would be met with the proposition that it must come with clean hands and it should offer to make such disclosure and should make good such offer before it would have any standing before a court asking to have the power of the rate-making body suspended.

However, the defendant in this case did not rely upon such presumption or upon the proposition that the plaintiff, before it could successfully maintain its application in the courts for an increase in rates, was under the duty of making a disclosure of its dealings with its manufacturing branch, and also a disclosure relating to the results of the joint enterprise in the matter of the long distance toll earnings. It affirmatively undertook to show that in both these matters the company was making additional earnings which it had not credited the local exchange with. Even if the amount of such additional earnings was not defintely established, the defendant having shown that there were such additional earnings, it is obvious that the burden was then upon the plaintiff company to show the amount of same before any determination could be made as to whether or not it was so limited in its earnings by the rate-making body as to amount to confiscation of its property.

The evidence in regard to the long distance tolls is referred to in the argument under the Second Assignment of Error, this Brief page ——.

In regard to the relation with the manufacturing branch,

the defendant's witness, Mr. Kelsey, who was shown to have had a great many years' experience not only in the management and operation of telephone companies and exchanges, but also in the manufacture and sale of telephone equipment and supplies, and who is now engaged in manufacturing telephone equipment, testified in regard to the induction coils, transmitters and receivers, which the plaintiffs attempt to value at \$5.50 per set. (Record p. 489.) His testimony upon this matter was as follows:

"* * * Q. You said you manufacture these instruments, there are three of them, for 50 cents apiece, didn't you?

A. Well, this started with this idea that Mr. Wilson advanced—

Q. You are talking about prices now.

A. I am talking about getting down and turning these things through the machine. And you can turn the induction coil through the machine for 40 cents apiece.

Q. The transmitter for 50 cents?

A. Yes.

Q. And this receiver for 50 cents?

A. Yes.

- Q. That is, for \$1.50, then adding another 50 cents, which would be thirty-three and one-third per cent to \$1.50, you have \$2.00 for the set of three. You have got 30,000 sets of this exchange here and that is an investment of \$60,000.
- A. Well, where you stopped was the misleading factor and you have got some freight and you have got a lot of things coming down here that have to be handled. I think \$2.50 is about right.

Q. You think \$2.50 is about right?
A. Yes. * * * " (Record pp. 490-491.)

He further testified in regard to the manufacture of these coils, that they are manufactured by punch press and punched out by the thousand.

Again Mr. Kelsey testified concerning the Preston and Capitol Exchange equipment, that they were appraised in the Hoag inventory, introduced by the plaintiff (Record p. 713), as \$750,000, without including numerous additional charges, such as contingencies, omissions, engineering expenses, etc. He further testified that other companies could manufacture this equipment for \$600,000 net, including all the items that the plaintiff added to the sum of \$750,000.

(Record p. 715-724.) He further testified that the completed equipment as contained in the said inventory including the additional charges above referred to would run to \$1,027,000, and that the companies other than the Western Electric Company could furnish this equipment for \$600,000, or more than \$400,000 less than the figures of the Western Electric Company included in the inventory. (Record p. This reduced to percentages would show that the companies other than the Western Electric Company, concerning which Mr. Kelsey testified, would furnish this equipment for 48 per cent less than the Wertern Electric Company would furnish same. (Record p. 77), In the face of this testimony, and although the plaint. was repeatedly asked to furnish the expense bills and show the cost of manufacture by the Western Electric Company and although it had it in its power to do so, it contented itself by mere statements of some of its employees, that is, employees of the A. T. & T. Co. to the effect that the equipment could be purchased from the Western Electric Company as cheap as or cheaper than it could be purchased elsewhere, and with the volunteered statement of an employee of the A. T. & T. Co. that the Western Electric Company made 8 per cent, without any data whatsoever to support such statement. This, we submit, did not, in view of this record and the affirmative proof made by the defendant, amount to a full or reasonable disclosure of the profits that the parent company, the A. T. & T. Co., which is the owner of both the manufacturing branch and the operating company, was indirectly making from the Houston exchange by selling the material and equipment that went into its plant and the supplies used in operating same.

While it has been affirmatively shown that better prices can be obtained from companies other than the Western Electric Company, still if such better prices could not be obtained the plaintiff company, before it can claim confiscation, will be required to show, within reasonable limits at least, the profits it is realizing by the manufacture of material that is included in the capital value in the local exchange and the supplies it is furnishing such exchange for

the purpose of operating same. This is especially true when, as the Record shows (p. 681-709), and it will not be denied, parent company, which, as before stated, owned both the Western Electric Company and the operating company, controls four-fifths of the telephone business of the United States, and the supplies for this four-fifths is exclusively furnished by the Western Electric Company. Other manufacturing companies cannot live in competition with it without incurring overhead expenses that greatly increase manufacturing costs, such competing companies being so limited in the sphere of their operations that they are working at a great disadvantage, and under these conditions, for plaintiff to say it purchases as cheaply from the Western Electric Company as it can elsewhere, is not to meet this issue.

One of plaintiff's witnesses an employee of the A. T. & T. Co., testified as follows:

" * * * Q. Well, not trying to dodge the issue, hasn't it become the condition in this country and still growing more so, that there is one gigantic telephone company that also owns and monopolizes the manufacture of the equipment?

A. To the great advantage of both.

Q. Whether it is to the great advantage of both, that is the condition in America today that the one monopolistic concern controls the operation of telephones and that it also controls almost to a monopolization extent the manufactured articles that go into the enterprises?

A. Well, I think that is substantially correct. * * * "

(Record pp. 707 and 708.)

We could enlarge very much upon this proposition, but we think what we have said is sufficient to demonstrate that it is impossible to determine from the showing made what the revenues, both direct and indirect of the plaintiff company in the operation of the Houston exchange, are. The fact is they are in position to even show a large deficit in the operation of the exchange, when, in fact, considering the additional revenues or profits they are making out of the long distance tolls and which they are making, and are in position to make, out of the manufacturing branch, they are realizing great returns. Under the showing made the rate-making body could not determine whether the claim

that the company is losing money is true or not. We respectfully submit that from such showing neither the trial court nor this court can determine the question. The burden was upon the plaintiff to make such a showing as would permit that question to be determined.

The rate-making body should not, when it appears that the real operator, the A. T. & T. Co., is in addition to the local revenues paid by the subscribers to the service also getting other profits from the long distance tolls and also getting certain other profits from the manufacture and sale of material and supplies used both in the construction and in the operation of the plant and paid for by the people of the City of Houston, be required to take the plaintiff's general statements at face value and assume that the company is making no more out of the manufacturing branch than it is entitled to. But the plaintiff, before it could claim confiscation, should make a full and fair disclosure in regard to such dealings, which it has persistently failed and refused to do, notwithstanding the fact, as appears from the testimony above set out, they are realizing more, both from the long distance tolls and from the manufacturing branch to the detriment of the Houston exchange, than they are This is an imposition upon the people entitled to receive. in the City of Houston. The City Council has refused to grant relief while this imposition is being practiced and we respectfully submit that the courts ought not to tie the hands of the council thus rendering it powerless to oppose this imposition.

In this connection we wish to say the defendants throughout the hearing insisted upon a fair showing and disclosure in regard to the long distance tolls and also in regard to the profits of the Western Electric Company realized from the placing of material and equipment in the local exchange.

It appears on pages 700-702 and 713 of this record that the plaintiff was notified that the defendants desired the expense accounts and cost data to show the cost of this material and the profits realized thereon by the Western Electric Company. One request for this information was made on March 9th, 1920. The hearing was not completed until

about the 1st of May, 1920, and yet plaintiffs made no attempt to show their relations with the Western Electric Company or the profits that were being realized by the real owner of the Houston exchange in the manufacture of material, equipment and supplies used in such exchange other than general statements of its employees hereinbefore referred to. No officer of the Western Electric Company was placed upon the stand, though the defendant had no means of requiring their attendance upon the court. The plaintiff could have required their attendance and could also, as the owner of the Western Electric Company, have furnished the data so often requested by the defendants, because all the officers and employees of the Western Electric Company, as well as all the data, were within the control of the A. T. & T. Co., the real plaintiff. The record in this case embraces over 4,500 pages. Over the repeated protest of the defendant, the plaintiffs read into the record much immaterial matter. They caused to come to Houston from great distances many witnesses, nearly all employees of the A. T. & T. Co., to testify in regard to the 4½ per cent license contract. The testimony of the different witnesses was cumulative upon this point. They placed on the stand five witnesses, who testified at great length in regard to the reproduction cost of the property of the Houston exchange. The testimony of all these witnesses was cumulative. The reading of this record will disclose that a great part of the testimony was immaterial, a great many other parts cumulative of matters not controverted, and yet this plaintiff, although repeatedly requested so to do, entirely failed upon the two important features of the case, viz.: the matter of the long distance tolls and the matter of the profits of the manufacturing branch, to make any disclosure except to say they arl itracily allowed the Houston exchange 25 per cent of the outgoing tolls and regarding the manufacturing profits, it contented itself with the mere general statements above referred to.

The Master, in his report (Record p. 44), says that for the plaintiff to come into court with clean hands "does not mean that to have clean hands it must produce all evidence avail-

able or possible to be furnished, but only sufficient evidence to demonstrate that its property is being confiscated."

We have never contended that in order to show that it is entitled to equitable relief that plaintiff must have produced "all the evidence available or possible to have been furnished." We readily agree that if it has furnished "sufficient evidence to demonstrate that its property is being confiscated" it is entitled to equitable relief, unless it is by statute, as we will hereinafter attempt to show, made an outlaw, which is barred from a court of equity. For the present, however, that plaintiff failed to furnish sufficient evidence to show that its property is being confiscated, is just the contention we make. It comes into court showing that it is in a position to exact from the Houston exchange enormous profits and revenues by way of indirection, because it owns the manufacturing branch, which places material in the plant at arbitrary prices and also furnishes supplies for the operation of the plant at such prices as it may see fit, and it has not, as we have attempted to demonstrate. shown that it has not taken advantage of this position. Not only that, but its evasion of the issue is such as to convict it of having so taken advantage of its opportunity to impose upon the Houston exchange. In the first place, the relation is one that ought not to exist, because it creates a temptation to impose upon the public. But if such relation is to be tolerated, surely the plaintiff should bring forward the best evidence, or at least evidence that reasonably shows that it has not yielded to the temptation, but that it has dealt fairly with the public, and this duty and burden is not discharged by mere general statements that its own manufacturing branch furnishes the material as cheaply as it could be purchased elsewhere, especially so when competition has been practically destroyed by it and when it has been affirmatively shown, as it was in this case, that the property is being put in by the concern that owns both the operating and manufacturing branches at prices highly inflated. This evidence should be overcome by clear and positive testimony, the best that can be obtained, viz.: the books and data of the Western Electric Company showing the

manufacturing costs and expense bills and all data that would reasonably bear upon the profits realized from the sale of such material to the local exchange.

The court below, referring to the question under discus-

sion, says:

"The scope of the inquiry in this case cannot be extended to the determination of a fair rate of profit to The American Telephone & Telegraph Company on its capital invested, or to such a rate of profit to the Western Electric Company, which is not a public service corporation, but a private corporation engaged in the business of manufacturing telephone apparatus. The problem presented by the relations of such holding and subsidiary corporations are serious ones, which vitally affect the public interest, but they are problems which primarily call for legislative consideration.

"The fact that The American Telephone & Telegraph Company dominates and controls both the plaintiff company and the Western Electric Company, is sufficient to cause the courts to very closely scrutinize any dealings between these corporations whereby any unjust advantage might be taken by the parent company, or the effect of which might be to enable it to receive a larger return than that which forms the basis of the established rate for telephone service to the public. Such corporations, however, are not debarred from entering into contracts with each other, and where such contracts are fair and advantageous to the subordinate corporation, they will be recognized and given effect." (Record p. 57.)

It is respectfully submitted that the honorable trial court has not met our proposition. Its holding seems to be based upon the proposition that the relation here complained of is not prohibited by statute and that being the case they will be recognized and given effect as fair. This again raises the question that this relation is not a fair one, or at least it has not been shown to be, that the presumptions are against it, and that the slight evidence offered by plaintiff, especially when opposed to the affirmative proof offered by the defendant, is such as to clearly indicate an evasion of the issue and that such evasion and want of frankness will deprive the plaintiff of any standing in a court of equity, regardless of whether or not Congress has acted in the matter. It is our understanding that this court will not be bound by the Master's finding, even when ap-

proved by the trial court, but will review the evidence in cases such as this City of Knoxville vs. Knoxville Water Co., 212 U. S. 1.

If the A. T. & T. Co., which, of course, is the real plaintiff in this case, chooses to carry on these different enterprises, such as manufacturing telephone material and equipment and furnishing same to an operating branch of its own business at whatever profit it may see fit to impose, and also sees fit to mix up with its business of furnishing local telephone service to the people of Houston, its long distance toll business and use the local property in earning long distance tolls and, further, to take from the earnings of the local property a part of its earnings under the guise of a so-called 41 per cent service contract without undertaking to show the cost of such service, it might, in the absence of statutory regulation, have the right to so conduct its business and different enterprises. This is one thing. Invoking the aid of a court of equity is quite another thing. While it might, if the people will submit to it, pursue the course it is pursuing, working such impositions as it can, it does not follow that courts are going to compel submission by the public to such imposition. While courts are not administrative and do not, of their own motion, reach out to correct business abuses or punish wrong-doers, still it is the pride of our civilization that our courts are clean and a litigant who invokes equitable relief, which, in accordance with our institutions, courts have the power to extend, is required to purge himself before he can even cross the threshold of a court of equity. This plaintiff, one of the mere subsidiaries of the A. T. & T. Co., is, as the proof in this case shows, in connection with the business which is under investigation, conducting other enterprises by some of which additional returns are made and by others of which additional burdens are imposed, and no real attempt is made to enlighten the court concerning the effect that the associated enterprises have, upon the earnings and the expenses of the business under investigation or on the value of the property, and, although the defendant has shown that the property has other returns than that which the plaintiff

credits it with, the plaintiff says: "Oh, that is something we don't want inquired into. We have given what we think is right, and with that the public must be satisfied," and although the defendant has shown that the local business is burdened with expenses of the associated enterprises, the plaintiff says: "Yes, this is true, but we cannot separate the expenses and will, therefore, burden the Houston exchange and the public, who is paying the return upon the property with whatever part we see fit," and although the defendant has shown that the real owners of the Houston exchange also own the Western Electric Company and furnishes most of the supplies and material used in such exchange and charges any price it may see fit for same, which the public has to pay, and in addition purchases for the exchange such material and supplies as it does not itself furnish, charging large commissions therefor, to this the plaintiff answers: "We buy as cheaply from the Western Electric as we can from any other supplier," without making any offer or attempt to show the profits that are realized by the A. T. & T. Co., by having its manufacturing branch manufacture and furnish goods to the exchange, the operating branch, and in this connection it appears that the parent company, the real plaintiff in this case, has so monopolized the telephone business of the entire country that any other supplier is insignificant as compared with the Western Electric Company, which has a monopoly upon all the business of the Bell System, which is owned by the A. T. & T. Co., and which System comprises four-fifths of the telephone industry of the United States. Although the defendant has shown that from the gross earnings of the Houston exchange, 41 per cent is appropriated by the A. T. & T. Co. under the so-called license contract, which purports to be a contract for certain services, the plaintiff has made no effort to show the cost of this service, but in a very vague and general way claims that it is very advantageous. Do these propositions appeal to a court of equity? If they do. what is the meaning of the maxims: "That he who seeks equity, must do equity," or, "That he who comes into a court of equity, must come with clean hands?" Indirect

hidden profits, lack of frankness and obscured issues form but a poor basis for equitable relief. The plaintiff in this case is not in a position to seek the aid of a court of equity and ask to have the enactments of a law-making body, acting within the scope of its legislative power, set aside and held for naught. It should, in entering the court asking for equitable relief, be required to pursue the same path that other litigants are required to pursue. It has only to free itself from the bewildering maize in which it is now operating and be in position to come into court and make a full and complete disclosure, informing the court of the exact condition of its affairs, which it has in this case fallen far short of doing. Until such time, if it pursues the course it is pursuing, it should be left to work out its own salvation and not receive aid from the court in perpetuating its impositions upon the public.

RELATIONS SUCH AS EXIST BETWEEN THE PLAIN-TIFF COMPANY AND THE WESTERN ELECTRIC COMPANY HAVE BEEN DENOUNCED BY CONGRESS.

It is submitted that the relation existing between the A. T. & T. Co., owner of the plaintiff company, and the Western Electric Company, is an illegal one, and for that reason, if no other, all presumptions are against its dealings being fair. Such relation has been condemned by Congress. (Art. 8835-i. Revised Statutes of the United States.) This article forbids such relationship where the annual sales are in excess of \$50,000, and makes it a criminal offense to furnish supplies in excess of that amount, except on competitive bidding. As heretofore shown, practically all equipment and supplies of the Houston exchange are purchased from the Western Electric Company, and the item for reserve for depreciation alone, exclusive of repairs, is, as found by the court, nearly \$300,000 per annum. It is true that by said article the date when it goes into effect has been postponed for two years and it is our understanding that there has been another postponement of the date when it is to

go into effect. This doubtless is to give great corporations, such as those under consideration, ample time in which to sever their relationship. However, the fact that the date for enforcing the penalty has been postponed in no way changes the fact that the relationship has, by Congress, been denounced as constituting a crime meriting heavy criminal penalties. So, then, this plaintiff stands before the court admitting a relationship which has been by Congress denounced as a crime, but with sentence suspended, and the mere fact that a penalty will not be inflicted upon it is no reason why it should receive affirmative aid from the court in collecting profits which at least might be, and for all the court can tell, are the fruits of a criminal act. The burden is upon the plaintiff, where there is a proper presumption against its innocence, for it is only natural to presume that the criminal relation having been created, it was not idly created, but that it was created for the purpose of profiting thereby. The probability and source of illicit profit in this case is in furnishing equipment and supplies by the manufacturing branch to the operating branch by plaintiff, A. T. & T. Co.

Perhaps we have dwelt upon this matter even to the point of being tedious, but we feel strongly that an imposition is being worked upon the public, not so much by the very considerable matters of taking away the 4½ per cent, under the guise of a service contract, and in allocating many unnecessary charges in determining the operating expenses of the plant, but, to a very great extent in the matter of the long distance tolls and the manufacturing profits. These indirect profits may rise to such magnitude as to render regulation absolutely nugatory, and it is respectfully submitted that the relief prayed for by the plaintiff, the extraordinary relief of suspending the powers of a co-ordinate branch of government, should not be granted, until by a fair and honest disclosure the plaintiff has shown that it has met with imposition at the hands of such legislative body.

BRIEF OF ARGUMENT IN SUPPORT OF NINTH ASSIGNMENT OF ERROR, RELATING TO THE CLAIMED DEFICIT.

(Record p. 65; this Brief p. 17.)

While upon their face the statements of the appellee's revenues and expenses for the year 1919 show that the cost of operation, including approximately \$300,000 annual reserve for depreciation, exceeds the revenues for that year, it is submitted that even for the year 1919 it was impossible to determine not only whether or not there was a deficit, but whether or not the appellee did, during such year, make a fair return upon its investment. In addition to what we have said in regard to the matter in the discussion of the Second, Sixth, Seventh and Eighth Assignments of Error, we wish to add that this court will take judicial knowledge of the fact that the year 1919 witnessed the peak of high prices, resulting from the World War, and of the further fact that prices have declined since the year 1919 to such an extent that the operation for the year 1919 no longer furnishes any criterion whatever for determining the costs of operation incurred by the appellee in the operation of the Houston exchange at the present time. Lincoln Gas & E. L. Co. vs. the City of Lincoln, 230 U. S. 255; 64 Law Ed. 968.

In order that justice may finally be done to the parties, the appellant prays that the judgment of the court below in this case may be reversed and rendered with costs.

> SEWALL MYER, W. J. HOWARD, A. E. AMERMAN, Attorneys for Appellants.

CONTENTS.

STATEMENT	PAGE
STATEMENT	1
The City's Propositions	8
PART I.	
(Upon the Appeal of the City of Houston, Case No. 219.)	
ARGUMENT:	
I. Conceding every claim of the City as to the contested items, the rates are confiscatory	13
II. The Property Investment	19
III. Credit to the Exchange for Toll Serv-	
The Facts Out of Which the Ques-	24
tion Arises	24
The Question Presented	32
IV. Payment to the American Telephone	
and Telegraph Company under the	
License Contract	38
The City's Contention	39
The Company's Contention	41
Origin and Development of the	
License Contract	51
Instrument Service	56
Patents	57
Research and Development	57
General Advice and Assistance	59
Financial Services	59
Accounting Services	59
The Services are Necessary for the	
Efficient Conduct of the Com-	
pany's Business	59

	PAGE
The Value of Only a Few Easily Evaluated Services is Several	
Times the Total Payment	60
The Services Cannot be Obtained	00
Otherwise by this Company for	
Less than is paid for them Under	
the Contract	63
V. Depreciation	66
VI. Rate of Return	71
VII. Purchase of Equipment and Supplies,	
and Certain Services from the	
Western Electric Company, Inc	75
The Question of Law Presented by	
the City	76
The Facts that Bear on this Ques-	
tion	76
The Question Presented upon These	
Facts	82
The Question of Fact	83
The Proof is Overwhelming that	
the Prices Charged this Com-	
pany by the Western Company	
are Fair	83
Company's proof on Western	
Company's Prices	84
City's Proof on Western Com-	
pany's Prices	98
The Contract is not an Exclusive	
Contract. It does not bind the	
Company to purchase from the	
Western Company	104
The Prices Paid to the Western	
Company have no bearing on	
any issue raised by the City	104
The Clayton Act	105
VIII Confiscation	106

PART II.

(Upon the Appeal of the Southwestern Bell Telephone Company, Case No. 220.)	PAGE
STATEMENT	107
The Company's Propositions	108
Assignments of Error	109
ARGUMENT:	108
I. The Company's Property is Confiscated by the Imposition of Rates which Prevent it from Earning a Fair Return upon the fair value of the property used or useful in rendering the service. The provision of the merger ordinance, upon which the trial court relied in substituting the cost of the physical plant for this fair value, is	
void	115
II. The Element of Going Concern Value which Exists in the Property was	
Improperly Excluded II. Materials and Supplies Used or Useful in Rendering Service are Working Capital and a Part of the Property upon which the Fair Return must be Computed and were improperly Ex-	125
eluded	127
V. The Annual Amount for Depreciation should have been Computed upon the Value of the Property instead of	
upon the Cost of the Physical Plant.	128

CASES CITED.

	PAGE
Central Transportation Co. v. Pullman's	
Palace Car Co., 139 U. S. 24, 59-60	124
Chesapeake & Potomac Telephone Co. v.	
Manning, 186 U. S. 238	49
Chicago, Milwaukee & St. Paul Ry. Co. v.	
Minneapolis Civic and Commerce Asso-	
ciation, 247 U. S. 490	42, 46
Chicago, Milwaukee & St. Paul Ry. Co. v.	
Wisconsin, 238 U. S. 491	50
Conley v. Mathieson Alkali Works, 190 U.	
S. 409	42
Denver v. Denver Union Water Co., 246 U.	
S. 178	125
Des Moines Gas Co. v. Des Moines, 238	
U. S. 165	125
Dixon County v. Field, 111 U. S. 83	123
Great Northern Ry. Co. v. Minnesota ex rel., 238 U. S. 340	50
Humphreys v. McKissock, 140 U. S. 304,	
312	42
	32
Interstate Commerce Commission v . Chicago	
Great Western Ry. Co., 209 U. S. 108	49
Interstate Commerce Commission v. Stick-	
ney, 215 U. S. 98, 108	42
Lake County v. Graham, 130 U. S. 674	123
Leavenworth County Commissioners v. Chi-	
cago, R. I. & P. Ry. Co., 134 U. S. 688,	
707	42
Lincoln Gas & Electric Co. v. City of	
Lincoln, 250 U. S. 256	71

Northern Pacific Ry. Co. v. North Dakota,	PAGI
236 U. S. 585	50
Pawhuska v. Pawhuska Oil Co., 250 U. S.	
394	121
Peterson v. Chicago, R. I. & P. Ry. Co., 205	
U. S. 364, 390, 391	42, 44
Porter v. Pittsburgh Bessemer Steel Co.,	
120 U. S. 649, 670	42, 45
Primrose v. Western Union Telegraph Co.,	400
154 U. S. 1 Propeller Niagara v. Cordes, 21 How. 7, 22	105
Puget Sound Traction Co. v. Reynolds, 244	105
U. S. 574, 578-9	121
Pullman's Palace Car Co. v. Central Trans-	121
portation Co., 171 U. S. 138, 1494	2 124
Pullman's Palace Car Co. v. Missouri Pacific	-, 121
R. R. Co., 115 U. S. 587, 596, 597	42, 45
San Antonio v. San Antonio Public Service	
Co., 255 U. S. 547	2 105
San Antonio Traction Co. v. Altgelt, 200 U.	0, 120
S. 304	8. 118
Southern Iowa Electric Co. v. Chariton, 255	
U. S. 539	, 125
Southern Pacific Co. v. Interstate Commerce	,
Commission, 219 U. S. 433	50
Southwestern Telegraph & Telephone Co. v.	
City of Houston, 256 Fed. 690	6
Sutliff v. Lake County Commissioners, 147	
U. S. 230	123
United Lines Telegraph Co. v. Boston Safe	
Deposit & Trust Co., 147 U. S. 431, 447	42
United States v. Delaware & Hudson Co.,	
213 U. S. 366, 413	42

	PAGE
United States v. Delaware, Lackawanna &	
Western R. R. Co., 238 U. S. 516	43
United States v. Lehigh Valley R. R. Co.,	
220 U. S. 257, 273	42
United States v. Lehigh Valley R. R. Co., 254	
U. S. 255	43
United States v. Reading Co., 253 U.S. 26	43
United States v. Strang, 254 U. S. 491	42, 44
Wyandotte Gas Co. v. Kansas, 231 U. S. 622.	121

IN THE

Supreme Court of the United States.

OCTOBER TERM, 1921.

No. 219.

CITY OF HOUSTON,

Appellant,

VS.

SOUTHWESTERN BELL TELEPHONE COMPANY, Appellee.

No. 220.

SOUTHWESTERN BELL TELEPHONE COMPANY,
Appellant,

VS.

THE CITY OF HOUSTON,

Appellee.

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

BRIEF ON BEHALF OF THE SOUTH-WESTERN BELL TELEPHONE COMPANY.

As Appellee, Case No. 219—Part I. As Appellant, Case No. 220—PART II.

Statement.

The Southwestern Bell Telephone Company, plaintiff in the court below (hereinafter referred

to as the Company) owns and operates a telephone exchange system in the City of Houston, Texas, furnishing local telephone service. The Company also owns and operates similar local exchange systems in many of the important cities and towns in Texas, and in the states of Missouri, Kansas, Arkansas and Oklahoma, and in addition to these exchanges for local service, owns and operates a separate toll system connecting these exchanges, and also connecting with the toll lines and exchanges of other telephone companies. This case involves only the rates for local or exchange telephone service in Houston.

This is a suit in equity for an injunction, instituted by the Company in the District Court of the United States at Houston to enjoin the City from compelling the Company to continue in effect a schedule of rates for local telephone service prescribed by the City by ordinance in 1909, on the ground that the rates are confiscatory.

The rates in question are \$5.00 per month for business or office connections; \$2.00 per month for residence connections; \$3.00 per month for party line service, business or office; \$1.50 per month for party line service, residence.

The ultimate question in this case is whether these rates so prescribed by the City in 1909 are shown by the record to be confiscatory.

The case was referred to a Master on August 25, 1919, who, after an exhaustive hearing, submitted his report to the court on June 5, 1920 (Report of Master, R. I, 29-45). The Master reported his specific findings as to the value of the Houston property of the Company, revenues under the rates complained of, expenses of operation, and fair rate of return, and found that under these rates the Company not only failed to obtain any return

whatever, but in 1919—taken as the test period—it suffered an actual net loss of \$306,204. The trial court, approving the Master's report as to most items but disapproving it and substituting other figures as to certain items, hereinafter considered, found that the Company sustained for the year 1919 a net loss of \$247,434. These figures take no account whatever of any return upon the property. The loss stated is the amount by which expenses exceeded gross revenues.

The trial court entered its decree adjudging the rates confiscatory and the ordinance void, and granting an injunction against their enforcement.

The City appealed from the decree and seeks a reversal.

The Company has filed a cross appeal. The Company assigns and prosecutes error upon certain rulings of the trial court upon exceptions to the report of the Master, as will appear fully hereinafter.

For the convenience of the court we have embodied in this one brief the Company's brief as appellee in answer to that of the City, Part I hereof, and the Company's brief as appellant in support of its own assignments of error, Part II hereof.

The Master found that the value of the Company's property used and useful in furnishing local telephone service in the City of Houston in 1919, the period to which the inquiry related, was \$6,003,000 (R. I, 38); that a fair rate of return upon the property was 8% per annum (R. I, 43); that the Company's total revenues from the Houston exchange for 1919 under the rates in issue were \$908,258 (R. I, 36); that its total expenses were \$1,214,462 (R. I, 42); that the net loss of operation

to the Company in 1919 under the contested rates was \$306,204 (R. I, 43).

The court found that by virtue of a merger ordinance enacted by the City in 1915 the Company should be held to rates which would yield it a fair return upon "its capital actually invested in the Houston plant", which language of the ordinance the court construed as meaning the cost of the property (R. I, 53). The court did not disturb the Master's finding as to the property's value of \$6,003,000 but found its cost to be \$4,691,567 (R. I, 58).

The court approved the Master's finding of 8% as the fair return (R. I, 58).

The revenues for 1919 from the Houston exchange, the court found, in agreement with the Master, were \$908,258 (R. I, 55).

The expenses for 1919, as found by the Master, the court approved except with respect to the item "reserve for depreciation". As to this item the court approved the Master's finding of 6.33% as the proper annual rate for depreciation, but held that it should be applied to the cost of the property, \$4,691,567, as found by the court, instead of to its value, \$6,003,000, as found by the Master (R. I, 58). So calculated on the cost instead of the value, the court found the amount for annual depreciation to be \$289,380 (R. I, 59). This is \$58,770 less than the amount of \$348,150 found by the Master for this item (R. I, 42). Deducting this \$58,770 from the amount of the expenses as found by the Master, the court found the Houston expenses for 1919 to be \$1,155,692, or that the Company's net loss in Houston in 1919 under the rates complained of was \$247,434 (R. I, 59).

The Master found, in other words, that at a fair

return upon the value of its property in 1919 the Company was entitled to earn \$480,002. That it lacked \$306,204 of earning anything. That its total loss, therefore, from operating at these rates was \$786,206.

The court, computing the fair return at the same rate of 8% but upon the cost of the property, found that the Company was entitled to earn \$371,325. That it lacked \$247,434 of earning anything. That its total loss, therefore, from these rates was \$622,759.

The Master's report and the trial judge's opinion appear in full in the record, Volume I, pages 29-45 and 50-66, respectively.

These are the actual results. The rates complained of are not experimental. They are rates which the City prescribed by ordinance as just and reasonable rates in the year 1909. Thereafter they were continuously in effect until they were increased by the Postmaster General for a short time during government control.

Prior to 1915 there were two companies furnishing telephone service in Houston-the Company and the Houston Home Telephone Company. The two companies and the City agreed upon a plan to eliminate this duplication of service, whereby the Company was to purchase the plant of the Home Company and consolidate the two plants In 1915 the City passed the "merger into one. ordinance" giving the necessary consent. By the terms of this ordinance the 1909 ordinance rates were continued in effect temporarily, but it was provided in effect that these rates should be increased whenever the Company should make a showing to the City Council that an increase was necessary to enable it to earn a fair return upon its investment.

The pertinent provision of this ordinance is subsection (e) of Section 1, as follows:

"The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than seven nor more than eight per cent." (Italics ours.)

(The full text of the merger ordinance is found in the record, II, pp. 764-7.)

In 1917, pursuant to this provision, the Company made the required showing and filed with the City Council a schedule of reasonable increased rates. Hearings were had but the City Council took no final action. In August, 1918, the Federal Government took over all the properties of the Company and operated them through the Postmaster General. He increased the ordinance rates and, the City attempting to enforce the ordinance rates, the Postmaster General sued out an injunction (Southwestern Telegraph and Telephone Company vs. City of Houston, 256 Fed. 690) and charged increased rates under its protection from February 1 to August 1, 1919. The United States returned the properties to the Company on July 31, 1919, and the City promptly thereafter notified the Company that it must return to the schedule of rates prescribed by the ordinance of 1909 (Opinion of the trial court, R. I, 50-1). Thereupon the Company brought this suit.

Since 1909, when the City prescribed these rates as just and reasonable, the cost of rendering telephone service, like the cost of nearly everything else, has enormously increased as the result of conditions brought on by the world war. This is shown by an abundance of testimony and without contradiction in this record, and indeed is a matter of common knowledge. Upon this subject the Master said:

"If the rates for furnishing telephone service are fixed at presumably fair rates, and subsequent to the fixing of such rates the cost of furnishing the service is largely increased, it would naturally occur to the man in the street that some corresponding increase in rates would be necessary to afford a profit. That such increase in the cost of operation has occurred is a matter of common knowledge and is generally recognized with regard to other public utilities, especially the railroads. It applies to every business under present conditions" (R. I, 44-45).

The present plant in Houston has been largely constructed, and reconstructed, since 1909 when these ordinance rates were fixed, during a period of constantly mounting capital costs, so that it is a far more costly plant than that with which the City Council had to deal in 1909 (R. I, 102). In 1919 the plant had grown to $3\frac{1}{2}$ times its size in 1909. Since 1910 more than $4\frac{1}{4}$ millions of dollars have been spent on the Houston plant (R. III, p. 1545).

In 1909 the number of telephones in the Company's Houston exchange was 10,630. In 1919 the

number had grown to 26,693 (R. I, 102). It is shown by the record without contradiction (R. III, 1326-7) that the cost per telephone of rendering local telephone service increases as the number of telephones in the exchange increases.

That the value of the service to the subscriber becomes progressively and correspondingly greater as the number of telephones in the exchange in-

creases is obvious.

In the face of these facts the Company has been forced to continue in effect rates that were no more than adequate in 1909. Under these conditions the figures of losses incurred during the last few years, of which those above shown for the year 1919 are but typical (R. II, Ex. 42, p. 961), will occasion little surprise. Exhibit 42 shows net losses at Houston, for the year 1916, \$136,762; for 1917, \$132,281; for 1918, \$201,791, these figures being excess of expenses over revenues, or those amounts less than no return whatever upon the investment.

The City's Propositions.

The City's propositions are these:

1. That the trial court erroneously held that the amount of the Company's investment in the Houston exchange, upon which it was entitled to earn a fair return, was \$4,671,567, because included in that amount was an item of so-called intangible capital in the sum of \$754,000, a part of the amount paid in 1915 for the property of the Houston Home Telephone Company when the two properties were united under the merger ordinance. First assignment of error, page 11; argument thereof, page 18 of City's brief.

- 2. That 25% of the long distance tolls credited by the Company to the Houston exchange on account of long distance business, and approved by the Master and the trial court as a fair and just amount, was not sufficient, but at least 60% of such tolls should have been credited to the exchange. First, second, and seventh assignments of error, City's brief, pages 11 and 16.
- 3. That the payment made by the Company to the American Telephone and Telegraph Company (referred to herein as the American Company) under the License Contract between the two companies for services rendered and telephone instruments furnished by the American Company pursuant to the contract,—which received the approval of the Master and the trial court as fair and advantageous to the Company—was not a proper operating expense, solely because of the American Company's large ownership of stock of the Company. Third assignment of error, City's brief, page 12, argued at page 36.
- 4. That the allowance by the trial court, in approval of the Master's report, of 6.33% as a proper rate for annual depreciation was excessive and should not have been more than 4%. Fourth assignment of error, City's brief, page 13, argued at page 39.
- 5. That the trial court erred in approving the Master's finding of 8% as the fair rate of return and should not have found a higher rate than 6%. Fifth assignment of error, City's brief, page 24, argued at page 40.

6. That the bill should have been dismissed for want of equity. The City's sixth, seventh and eighth assignments of error, pages 14 to 16 of the City's brief, challenge (a) the adequacy of the credit to the exchange of 25% of the tolls, (b) the legality of the License Contract payment to the American Company, and (c) both the legality and fairness of the dealings between the Company and the Western Electric Company, Inc. (referred to herein as the Western Company).

While these three assignments are grouped together by the City at page 41 of its brief, (a) and (b) above are, respectively, propositions 2 and 3 above, and are separately covered by previous assignments, and separately argued in the City's brief, as already stated. The only new subject matter dealt with in this part of the City's argument, therefore, is that with respect to (c) the Western Electric Company relationship. The City contends that the proof failed to show equity because (1) the amount of the profits of the Western Electric Company is not shown, and (2) its profits are excessive.

7. The City's ninth and last assignment of error is general, alleging that the court erred in adjudging the rates confiscatory, etc. City's brief, page 17, argued at page 56.

In a word, on the questions raised by the City, the case involves these subjects, namely, (1) Amount of property investment; (2) Credit to the exchange in connection with the toll business; (3) The License Contract payment to the American Company; (4) The Amount for Depreciation; (5) The Rate of Return, and (6) Purchase of supplies and certain services from the Western Company.

Property. No challenge is made by the City of the amount of the Company's investment in the Houston exchange property upon which the court found the Company entitled to a fair return, except with respect to the item of \$754,000 of so-called "intangible capital"—a part of the price paid in 1915 for the Home Company's property.

Revenues. The City does not question the accuracy of the amount of the Company's revenues as found by the trial court, except with respect to the credit to the exchange for services in connection with the toll business.

Expenses. It makes no attack upon the amount of the Company's expenses, except with respect to (a) the License Contract payment to the American Company, and (b) the amount for depreciation.

- (a) With respect to the License Contract payment, the City claims that \$13,000 is all that should be allowed as an operating expense, one of its witnesses fixing the amount at this figure (City's brief, While challenging this payment to the American Company as an improper operating expense, except as to \$13,000, the City does not question the fact that the services and instruments covered by the payment are worth the full amount of it and more, that they are necessary to efficient and economical telephone service, and that they cannot be obtained elsewhere for less than this Company pays for them, but bases its objection solely upon the proposition of law that the American Company's ownership of stock in this Company makes the contract and the payment under it illegal.
- (b) With respect to the question of the amount to be charged as an expense for depreciation, the

City challenges the trial court's allowance of a rate of 6.33% and claims that 4% is a proper rate for depreciation (City's brief, pp. 13-14).

We believe it will conduce to clearness of presentation if we take up the City's several propositions and argue them *seriatim* in the order in which they are argued in the City's brief, which is in the numerical order of the assignments of error. We shall accordingly follow this course in the argument, except as regards our first counter-proposition, which is:

Conceding, for argument, every contention of the City with respect to the only issues it presents that affect the local exchange rates in litigation, namely, its claims as to the amount of the investment in the property, the credit to the exchange in connection with the toll business, depreciation, and the License Contract payment to the American Company, the rates in issue are still plainly shown to be confiscatory.

ARGUMENT-PART I.

Upon the Appeal of the City of Houston (Case No. 219).

I.

Conceding every claim of the City as to the contested items, the rates are confiscatory.

The only contested items that have any material bearing on the exchange rates are (1) the amount of the investment in the property, (2) the credit to the exchange of 25% of the toll revenues, (3) the amount of the annual depreciation charge, and (4) the License Contract payment to the American Company in consideration of services rendered and telephone instruments furnished to the Company.

If the City's claims as to all of these items, and its claim that 6% instead of 8% is the fair rate of return, be conceded, the rates are still plainly confiscatory. To demonstrate this proposition we submit four tables, showing, in Table "A", the investment, revenues, expenses and rate of return as found by the trial court, and then in tables "B", "C" and "D" the same items according to the several contentions of the City.

We use the investment as the basis for earnings in each table because more favorable to the City than the value of the property.

TABLE "A".

Conclusions of Trial Court.

Investment—Physical Property (R. I, 58)	\$4,571,567.00
	\$4,691,567.00
Revenues.	
Exchange (At Contested Rates) (R. I, 42 and 55)	\$764,484.00
Total Exchange and Miscellaneous	\$ 786,956.00
and 55)	\$908 258 00
Expenses.	1000,200.00
Actual expenses as found by the court	\$ 1,214,462.00
percentage to investment instead of value	
Total Expenses	\$1,155,692.00
Loss	\$247,434.00

TABLE "B".

Based on Trial Court's Conclusion ment and the City's Claims as tested Items.	as to Invest- to Other Con-
Investment—Physical Property Working Capital	\$4,571,567.00 120,000.00
	\$4,691,567.00
Revenues.	
Exchange Miscellaneous	
pages 11 and 12	275,662.00
Total Revenues as claimed by City	\$1,062,618.00
Expenses.	
Expenses (Exclusive of License Con-	
tract and Depreciation)	\$822,784.00
*Instrument Service	13,000.00
**Amount for Annual Depreciation	
(4% of \$4,571,567.00)	182,863.00
Total Expenses as claimed by City	\$1,018,647.00
Net Income Return on Investment of \$4,691,567.00	\$43,971.00 0.9%

^{*} See City's Brief, page 37, value of instrument service as claimed by one of City's experts.

** See City's Brief, page 14, where 4% is stated as the proper rate for Depreciation Reserve.

TABLE "C".

Based on City's Claim as to Investment, (that is Deducting the \$754,000 contended as Erroneously Included in Amount Found by Trial Court), and Other Contested Items as claimed by City and set out in Table "B".

This is identical with Table "B" except that the investment is reduced by \$754,000.00 as claimed by City.

Investment—Physical Property Working Capital	\$3,817,567.00 120,000.00
Total	\$ 3,937,567.00
Revenues.	
Exchange and Miscellaneous 60% of Toll Revenues	\$786,956.00 275,662.00
Total Revenues as claimed by City.	\$ 1,062,618.00
Expenses.	
Expenses (Exclusive of License Contract Payment and Depreciation). Instrument Service	\$822,784.00 13,000.00
\$3,817,567)	152,703.00
Total Expenses as claimed by City.	\$988,487.00
Net Income	\$74,131.00 1.88%

TABLE "D".

Based on City's Extreme Claims as to All Contested Items.

This is identical with the two preceding tables except that the valuation is reduced to \$3,000,000 with the corresponding adjustment in reserve for depreciation.

Lowest Amount Suggested by City—City's Brief, page 14 Working Capital	\$3,000,000,00
*	\$ 3,120,000.00
Revenues.	
Exchange and Miscellaneous 60% of Toll Revenues	\$786,956.00 275,662.00
Total Revenues claimed by City	\$1,062,618.00
Expenses.	
Expenses (exclusive of License Contract Payment and Depreciation Reserve)	\$822,784.00 13,000.00
Total Expenses claimed by City	\$955,784.00
Net Income* *Return on Investment of \$3,000,000.00	\$106,834.00 3.56%

^{*}The lowest valuation claimed by the City is \$3,817,567. First Assignment of error, page 11. The suggestion of \$3,000,000 is contained in the City's eighth exception to the master's report, which is the subject of the Fourth Assignment, but this assignment in no way touches the question of valuation (City's brief, pages 13-14).

These simple calculations dispose of the City's appeal.

Its extreme claim as to the value of the property, or the investment in the property, is \$3,000,000. Although this figure is not open to the City, because no error is assigned that involves it, we have nevertheless used it in table "D" because it is suggested in the eighth exception to the Master's report. City's brief, fourth assignment of error, page 14.

Its extreme claim as to the percentage of toll revenues which should be credited as exchange revenues is 60 per cent. City's brief, second assignment of error, page 12.

The only item included on account of license contract payment is the \$13,000 claimed by the City to be reasonable for the instrument service alone, leaving nothing whatever on account of the many other more important services. Tables "B", "C" and "D" eliminated from the expenses of the exchange every part of that payment except this \$13,000, so that nothing whatever is included on account of the other more important services furnished under this contract.

The City's extreme claim as to reserve for depreciation is 4 per cent. of a \$3,000,000 valuation of the property, or \$120,000. City's brief, fourth assignment of error, pages 13 and 14.

It asserts that 6 per cent. is a fair rate of return. Fifth assignment of error, City's brief, page 14.

Since, therefore, with all these extreme claims of the City allowed, the Company cannot earn under the rates in issue in excess of 3.56 per cent. on even the lowest valuation of only the physical property, or amount of investment in the bare physical prop-

erty, contended for by the City, it cannot be denied that the rates are confiscatory.

It is clear that the decree of the court below must be affirmed. A consideration of the assignments of error in detail leads to the same conclusion.

II.

The Property Investment.

(The City's First Assignment of Error.)

The facts are not disputed and the question is purely one of law.

The trial court held as a matter of law that the Company is bound under the provisions of the merger ordinance of 1915 to accept the cost of the property in lieu of its value as the amount upon which the fair return is to be computed. The court found the cost to be \$4,517,567 and substituted that amount in place of the fair valuation of \$6,003,000 found by the Master (R. I, 36, 54).

In its first assignment of error the City contends that the court erroneously included an item of \$754,000 of "intangible capital". (This first assignment also deals with the matter of the proper treatment of the exchange property in relation to the toll business but the City does not argue that point in its discussion of this assignment. See City's brief, page 18. That point is dealt with by the City in the argument of its second assignment of error, City's brief page 19. We shall therefore omit it here and discuss it in the next section of this brief. In the assignment as printed on page 11 of the City's brief this item is given as \$700,000, but this

is corrected in the argument of the proposition on page 18 of the brief, where it is correctly stated as \$754,000.)

This item arises out of the Company's purchase in 1915 of the property of its local competitor, the Houston Home Telephone Company, the City having given its consent to the transaction by enacting the merger ordinance, under and in full compliance with which the purchase was made and the two plants consolidated.

Under the Interstate Commerce Act the Company is required to keep its books in compliance with the accounting rules of the Interstate Commerce Commission. This transaction is governed by Section 13 of the "Uniform System of Accounts for Telephone Companies", made effective by order of the Commission on January 1, 1913, which is as follows:

"13. Plant and equipment and other property purchased.-When any property in the form of a going or completed plant is purchased, an appraisal of the property so acquired should be made, and the different constituent elements of the plant (and equipment, if any) or other property acquired should be appraised at their structural value; that is to say, at the estimated cost of replacement or reproduction less depreciation to the then existing conditions through wear and tear, obsolescence and inadequacy. If the actual money value of the consideration given for the plant or other property was at the time of the acquisition in excess of such appraised value, the excess should be charged to Account No. 204, 'Other Intangible Capital', and the appraised values of the constituent elements should be charged to the appropriate fixed capital accounts as hereinafter designated. If the actual money value of the consideration given was not in excess of such appraised value, such

actual money value should be distributed through the said accounts in proportion to the said appraised value of the constituent elements approximate to the respective accounts. Companies should be prepared to furnish the Commission, upon a demand, a full report of the contract of acquisition, the consideration given therefor, the determination of the actual money value of such consideration if other than money, the appraisal, and the amounts charged to the respective accounts for each plant or other such fixed capital purchased". (R. I, 71).

These rules were complied with by the Company in making the entries of this transaction upon its books. (R. I, 71; II, 973-4). The book entries as they were actually made are shown in Plaintiff's Exhibit No. 172 (R. II, 973-4). The item of \$754,000 was the amount required to be charged to I. C. C. Account No. 204 "Other Intangible Capital", and it was so charged.

There is no dispute that this sum of \$754.000 was actually paid by the Company as part of the purchase price. There is no dispute that the amount of it was correctly arrived at, nor that the entries were properly made as required by law. No phase of the transaction is called in question by the City upon its appeal. In holding that the Company was bound by the merger ordinance to accept the cost of its total exchange property in Houston as representing the amount of its investment upon which it is entitled to earn a fair return to avoid confiscation, the court sustained the position which the City took in its answer to the Company's bill of complaint, Section (b) of paragraph 29 (R. I., 26-7). But the court held itself bound to include the entire cost, there being no question that it was actually and honestly incurred, and accordingly included the entire purchase price of the Home Company's property, regardless of how the items were designated on the books. The City insists upon the exclusion of this three quarters of a million dollars of the actual cost.

The City's position seems to be that it should be excluded because it is a so-called "intangible" item. This position is untenable. It is none the less a part of the capital which the Company has actually invested in the property in Houston. We have no doubt that the very purpose of this provision of the ordinance was to insure to the Company the right to earn a fair return upon the whole of the purchase price and to protect the Company against the very sort of contention the City now urges.

The entire physical property purchased was appraised as required by the accounting rules. In such consolidation there is always, in the very nature of the case, some excess of physical property that has to be taken out and salvaged, for it is the duplication of plant, for one thing, which makes this competitive service expensive and burdensome to the public. The portion of the property purchased which was in duplication of that of the Company then in service has been displaced and salvaged. The amount realized in salvage has been reinvested in plant in Houston. The City does not question the fairness and accuracy of either the appraisal or of the salvage.

What the Company did was to take the amount actually paid for this property; from this it deducted the physical property discarded in connection with the consolidation, deducting on this account the amount at which this specific physical property had been taken onto the books at an appraisal in connection with the consolidation, less

the net salvage on account of it, which went back into the plant (R. I, 70-4; II, 973-4). The physical property which was retained in service, at the appraisal figures, added to the net salvage reinvested in plant represents the "structural value" entry on the books; the price paid less this amount is the item of "intangible capital".

The Interstate Commerce Commission's accounting rules lend no support whatever to the City's contention, but clearly sustain the Company's position. What Section 13 says in effect is that the entire purchase price shall be treated and recognized as proper capital investment. For the purpose of proper bookkeeping, and in order that the book entries shall truly reflect the accounting facts, it is provided, in effect, that the actual investment in such property shall be divided into two parts, one, tangible capital, representing the "structural value"; the other, which is as much "capital" as the first, called "intangible"—the difference between the price paid and such structural value. Both are capital items, go into the capital account, and are treated alike.

The City denies that the Company is entitled to a return upon the present fair value of its Houston property and says that the Company is estopped to claim more than its cost. (The Company contests this position upon its appeal, which is argued in Part II of this brief hereinafter.) The court has held with the City on this proposition but in doing so has recognized the obligation to allow the entire cost, and when the City goes further and insists upon subtracting this large amount, there being no charge that it was not actually, honestly, and fairly incurred, it takes an untenable position.

III.

Credit to the Exchange for toll services.

(The City's First, Second and Seventh Assignments of Error.)

The Company credits to the Houston exchange 25% of its gross receipts from toll messages at Houston to compensate the exchange for its services in connection with the toll business, as hereinafter explained. For the year 1919 this amounted to \$121,302. Both the Master and the trial court found this amount fair and adequate and approved it.

Upon this finding the City assigns error and claims that a larger percent (its extreme claim being 60%) should be credited to the exchange.

The Facts Out of which the Question Arises.

It is necessary to understand clearly the relation between the Company's two classes of telephone service and property—(1) exchange service and property, and (2) toll service and property. The Company furnishes local or exchange telephone service in the cities and towns by means of its exchange property. It furnishes long distance or toll service between the cities and towns by means of toll property. The toll lines connect not only the Company's own exchanges but also connect with the toll lines and local exchanges of other companies, the so-called "independent" companies in which the Company has no interest. There are several hundred such independent companies in the state of Texas alone (R. I, 108). The Company's toll sys-

tem extends generally throughout the five states in which it does business and also connects with the long distance system of the American company, affording the subscribers of the Houston exchange a nation-wide long distance telephone service.

The exchange system in Houston comprises four central offices, the exchange switchboards therein, the subscribers' lines extending from these switchboards to the subscribers' places of business and residences, the subscribers' telephones, generally referred to as "stations", and the equipment which goes with these several classes of the exchange property. These make up the exchange system for furnishing local telephone service. It functions in the same way and embraces the same property that an exchange system does where there is no connection with any toll system.

The toll system, by means of which long distance communication is furnished between Houston and other cities and towns in Texas and throughout the United States, consists of the toll switchboard in Houston, which is housed in one of the central office buildings of the Houston exchange, the toll lines extending from this toll switchboard to the distant cities and towns and terminating generally in toll switchboards in those cities and towns, together with the miscellaneous toll equipment used in connection therewith.

A portion of the toll property is thus seen to lie within the area of the Houston exchange, that is, within the city limits. Such portion is the toll switchboard in Houston, its attendant equipment and that part of the toll lines within the City limits. But this part of the toll property within the area of the Houston exchange is not part of the exchange property, any more than is the toll property outside of Houston. It is

entirely separate and distinct from the exchange. The toll property located within the exchange area is a very minor part of the total toll property employed in furnishing long distance communication to the people of Houston (R. III, 1501). Toll calls go out from Houston to all parts of the country. Outside the city are thousands of miles of poles, copper wires, expensive repeaters and loading coils, etc. In each of the cities and towns with which Houston is thus connected are the toll switchboards and attendant equipment similar to that in Houston.

When long distance telephony originated there was no connection between the exchange system and the toll system. Persons desiring to talk over the long distance lines went to long distance offices which were not connected with the exchanges (R. I, 154), and paid the toll rate in accordance with the established toll tariff.

Improvements which attended the development of the art made it possible and practicable to connect the exchange system with the long distance system so that the subscriber could talk from his exchange telephone to the distant point. The connection between the two systems was through wires called trunks extending from the exchange switchboard to the toll switchboard. The subscriber calling from his own telephone got the operator at the exchange switchboard just as in the case of any local call. Then, instead of a local number, he asked for long distance and was connected with the operator at the toll switchboard, who took his long distance call and put up the long distance connection. Thus it has come about that, in holding a long distance or toll conversation, the subscriber talking over his instrument makes use of exchange facilities as well as toll facilities. One value of the exchange equipment and service to him is the ability to do this, instead of having to go to a toll office for the purpose, as he would be obliged to do if there were no local exchange, or no connection between the local exchange and the toll system.

This ability of the subscriber to command and have toll service directly over his exchange instrument likewise adds to the efficiency and dispatch of the toll service. But the use of the exchange facilities in connection with a toll call does not change that equipment into toll property. Nor does the use of the toll equipment in connection with the exchange equipment, because it enhances the use and value to the subscriber of the exchange service, change the toll equipment into exchange property.

An exchange rate should not be made to bear the toll expenses or afford a return on toll property. A toll rate should not be made to bear exchange expenses or afford a return on exchange property. But what does the exchange rate cover and what is exchange property; what does the toll rate cover and what is toll property?

The simple way of coming at once to the heart of this whole question and clearing it of all confusion, both with respect to the separation of exchange and toll property and the separation of exchange and toll service, is to determine what service is covered by the exchange rate and what by the toll rate. This is the true basis for classifying the properties which will afford reasonable certainty in the ascertainment of the proper basis of either class of rates.

It is simply the determination of the services for which the respective rates are paid. That ought to be, and in this case is, definitely known. If we are able to identify each service, we can readily identify the property used in rendering it, as well as the revenues derived from it and the expenses of it.

The original rate structure, adopted when there was no connection between the two services and property, has been retained ever since. The exchange rate covers every use made of the exchange property, and always has. The exchange subscriber, in consideration of the monthly rate he pays for exchange service at Houston, has the same right of access to the operator at the toll board that he has to the operator at the exchange board. If his toll call is completed so that he gets the long distance connection, he is charged for the toll call the regular toll rate. This rate is from the toll switchboard in Houston to the toll switchboard at the distant point, and has always been If he does not get the toll connection, no charge is made. In either case, whether the toll call is completed or is not, the exchange rate covers the use of the exchange facilities. The toll rate takes no account of the exchange property or services, and vice versa. The two services, property and rates are separate and distinct (R. III, 1317).

The exchange rate covers the entire local service, whether that service be used for a local call alone or for a local call in connection with the toll lines. The service within the exchange is a service furnished by the local exchange to the local subscriber. It is not a service furnished by the local exchange to the toll company. This is why the local subscriber pays for it and why the toll company does not and should not pay for it.

If the exchange rate pays for the service which embraces every use made of the exchange equipment, whether for local calls or in connection with toll calls, that equipment is necessarily to be treated as wholly exchange property. The fact that it is used in connection with toll property does not make it toll property, any more than the fact that toll property is used in connection with exchange property makes toll property exchange property. They are separate and distinct.

It is upon this basis that the toll and exchange properties were divided in the proof and findings

in this case.

As the case involves only the exchange rates, whether they are confiscatory or not is determined by the return they afford upon only the exchange property. Therefore the toll property lying within the exchange area, that is within the City, had to be excluded to arrive at the investment or valuation in this case. Such property was excluded—long distance switchboards, toll underground cables, toll poles, wires and cable boxes, every part of the long distance plant (R. I, 150). The property which the Master valued, and the property of which the court found the cost to arrive at the Company's investment, included no portion of the toll property.

This disposes of the question of the separation of the entire property in Houston as between the two classes of exchange property and toll property.

It leaves for consideration the question of the expenses of operation as between the two services.

Here again, logically, the inquiry becomes: What service with respect to long distance communication is covered by the toll rate and what, if any, by the exchange rate?

The toll rate, we have shown,—and the record shows,—covers and pays for the service from toll board to toll board (R. I, 152). The exchange rate covers all local exchange service, whether on local calls or on such calls in connection with toll calls.

In connection with the rendition of the toll service, some operating is necessary in order to connect the exchange switchboard with the toll switchboard and to put through the call. There is also some accounting and collecting. It is more economical for the local exchange to perform these toll services than for the toll company to perform them itself.

It is to compensate the exchange for these services that are properly toll and not exchange services, that is for the toll operating and switching between the exchange and the toll lines, sometimes called "originating and terminating the business", and for the exchange's expense in billing and collecting toll accounts, that the credit is given to the exchange of 25 per cent. of the toll revenues (R. I, 110; 132-3; 143).

All service rendered in or by the exchange in effecting such communication, except that just mentioned, is necessarily exchange service, because until the toll connection is made, no toll rate is put in operation, no toll revenue accrues, and the service is in no way dissimilar from the service rendered in any other local call. It is through making the connection that the exchange is made to perform a function beyond that which it performs in ordinary local calls. For this service and for the toll operating, billing, collecting and accounting, performed for the toll company the exchange is compensated out of the toll revenues.

The fallacy of the position of the City is the assumption that the exchange rate exists for only local calls. It does not. No more than the ex-

change exists for purely local calls. The exchange rate is for every service rendered by the exchange within the exchange. In long distance communication that includes every service from the subscriber's instrument to the toll board or vice versa. What it does not include is what is necessary to make the exchange equipment available in the long distance communication, namely, making the connection on the toll board between the exchange and the toll line and the toll operating.

The City has no power to regulate rates for toll service, which extends outside the City and throughout the state of Texas and throughout the country. If the exchange rates, which the City has power to regulate, do not cover the service between the subscriber's telephone and the toll board in Houston, as the City here contends, then, since the toll rate does not now cover it, the Company is entitled to make an additional charge for that part of the service, either in the form of a separate charge for connection with the toll board or as an addition to the toll rate. In case of an uncompleted toll call this would necessarily be a separate charge; in the case of a completed toll call it would naturally be added to the toll rate. Yet if the Company should attempt to increase its revenues in that way, can there be any doubt that the City would resist it and make the claim that access to the toll board has always been understood to be included in the exchange service, covered by the exchange rate? The City would rightly contend that this has always been the practice at Houston and is the universal practice in telephony in this country.

The Question Presented.

This brings us to the question:

Was the allowance of 25 per cent. of the toll revenues sufficient, according to the record, to compensate the exchange for the services performed by it in connection with the toll business?

The Master found that it was, and the court likewise so found (R. I, 36-38; 55).

On page 35 of the City's brief is the statement that one of the Company's witnesses, Mr. Player, testified that the 25 per cent. allowance "is not even enough to take care of the cost of handling it"—referring to the service rendered by the exchange in long distance communication. This statement is a mistake. Mr. Player's testimony on this subject is contained in Volume I, pages 156-7 of the Record. It contains no such statement as that attributed to him.

The Master found, as did the court in approving his report, that the 25 per cent. allowance amounted to an average allowance to the Houston exchange of 14.9 cents per long distance call, and that this amount was greater than the amount allowed for the same services to any one of the eight largest independent exchanges in the state by independent long distance systems with which they connect (R. I, 37).

He found, as did the court, that this allowance to the Houston exchange is larger than the Company pays for the same services to over 300 independent exchanges in Texas with which its long distance lines connect (R. I, 37).

Also, that no one of the four largest independent toll systems in Texas pays to any independent exchange with which it connects more per call for the same services than under this allowance is credited to the Houston exchange by the Company (R. I, 37).

And further, that the testimony tended to show that the percentage used here is the one customarily approved for the same services by state commissions throughout the country (R. I, 37).

It is the percentage which has been made for the same purpose and to cover the same services by the Missouri Public Service Commission and the Oklahoma Public Service Commission in over 100 cases before those commissions (R. I, 155).

It is the customary percentage used for the purpose by the Company as to all of its local exchanges where the conditions are similar (R. I, 109).

It amounts to an average payment to the Houston exchange of 14.9 cents per long distance call. The average amount per long distance call paid by the Company to 362 independent exchanges owned by independent companies in Texas with which its toll lines connect, for the same services, is 4.13 cents. See Exhibit 48, Testimony of H. B. Copes (R. III, 811) and testimony of H. B. Copes (R. I, 113).

There are between 600 and 700 independent companies in Texas (or individuals operating independent lines) with whose local exchanges the toll lines of Company connect, which for the same services accept as satisfactory the same percentage (R. I, 108; 148).

It was the basis adopted and put into effect with respect to the same services by the Federal Government on taking control of telephone lines during the late war (R. I, 119-20).

No one of the eight largest independent exchanges in Texas receives for these services as much per call handled from independent long distance lines connected with it, as the Houston exchange receives under the allowance (Exhibit No. 50, R. II, 812; I, 116-17).

No one of the four largest independent long distance systems in Texas pays per call handled for these services to any independent exchange with which it connects—exchanges which those systems do not own—as much as is paid the Houston exchange (Exhibit 49, R. II, 812; see also Testimony of H. B. Copes, R. I. 114-115).

The average amount per call paid for these same services by the four largest independent systems in Texas to independent exchanges with which they connect is 4.2 cents (R. I, 115).

The average amount per call received for these services by eight of the largest independent exchanges from independent companies with which they connect is 7.1 cents (R. I, 116-17).

It thus appears that the percentage is a standard one and of usual adoption. That it is a standard percentage for the purpose is of itself proof of its fairness. It is larger than independent companies in Texas, not under common ownership or control but dealing with each other at arms length, pay each other.

That it is a standard percentage; that it is accepted as satisfactory by between 600 and 700 independent companies in the same state having exchanges with which the toll lines of the Company connect; and that it exceeds the amount paid for the same services by independent companies to each other, affords ample proof, we submit, that it is fully sufficient to cover the expense of the services for which it is paid and is, therefore, fair and just.

Counsel for the City attempt to weaken the force of this testimony by pointing out that the Bell System owns and operates four-fifths of the telephone property in the United States. From this they conclude that "the contracts made with so-called independent companies, as will appear from the foregoing statement, are made where the local exchange is under the disadvantage of having to procure the long distance service upon such terms as the owner of the long distance will grant to them, or failing to accomplish such conditions, foregoing the use of the long distance service" (City's brief, p. 34).

But the argument ignores the facts. The finding of the master and the uncontradicted testimony are that the independent companies, in which Bell Companies have no interest, universally allow this same percentage to Bell companies with which they connect; the independent companies when dealing with each other make the same allowance; and the Bell companies make the same allowance to the independent companies.

The City argues that the allowance to the exchange is made inadequate because the toll rates are not regulated by public authority, whereas the exchange rates are, making it profitable to keep down the exchange revenues to make the exchange show inadequate earnings in a rate investigation. There is nothing in the proof to support this suggestion, and it is entirely beside the question. If the allowance is adequate, the motive becomes immaterial. If the allowance is inadequate, a good motive would not save it.

But aside from this, the argument fails. In Texas there is no state commission, it is true, but in every other state save Delaware and Iowa there is a state commission which regulates both exchange and toll rates. The testimony shows that 25 per cent. is the customary allowance made by state commissions throughout the country (R. I, 146; 155-6).

The City's own expert, Lyndon, whose testimony counsel cite and rely upon in their brief, really lends more support than opposition to the adequacy of the 25 per cent. credit. He testified that "it just about meets the cost"—that is, the cost of the services compensated for by it; that he believed "in 1919 it showed a slight profit", though, "as far as he was able to determine", there was "some" loss under it in 1914 and 1918 (R. I, 169).

He testified further upon the point, and it is important to note what he said:

"The Master: If this was an independent company operating this local exchange here in the City of Houston, would it be to their advantage not to connect with the toll lines

on that basis?

Mr. Lyndon: On that basis if they had to put an investment into toll apparatus, provide a building, and add the depreciation charges and operation that is true. I mean that on the basis of net returns, the long distance convenience to the public, I think the local exchange would be far better financially if—they conducted as a separate enterprise,—on the basis of 25% only. If that percentage is carried to 30%, I believe, that it would be about even; if carried to 35%, I believe it would show a profit for the local exchange" (R. III, 1134).

In the first place he assumes that the exchange is to carry the investment in the toll property and provide for all depreciation. In our case the toll property investment is not carried by the exchange.

That has all been excluded from the appraisal and valuation (R. I, 150). In our case the depreciation charges on the toll property are also borne by the toll property and are not charged to the exchange (R. II, 985).

In the next place, even upon his assumption, at the 35% rate the exchange would make a profit equal to 5% of the toll revenues.

It is fair to say, therefore, that even upon this testimony of the City's own witness, and if we accept his view of the proper basis of payment, the 25 per cent. payment in this case is ample. This is clearly so because the investment in the toll property plus depreciation, which his assumption makes the exchange carry, and which in our case is excluded from the exchange property, would offset the additional 10 per cent. which he thinks should be allowed.

The only material point is to see that the expenses of the exchange are not enhanced by expenses incurred in performing a non-exchange service, and that, if any such expenses are originally incurred by the exchange, it is made whole on account of them. This test has been met here, according to the findings of the master and the trial court, and the proof overwhelmingly sustains the findings. The City has no right to require more. It has no right to demand that the exchange make a profit, at the expense of the users of the toll service, out of the switching at the toll board, and the billing and collecting, which it does for the toll company.

It is clear that this payment to the exchange for what it does outside the exchange business and in aid of the toll business is adequate and proper, and that the City's claim that there has been a failure of proof of what the payment from this source should be, and that it is thus impossible to determine whether there is confiscation or not, is without foundation. The finding of the Master, approved by the trial Court, that the amount credited is fair and adequate, is fully sustained by the record.

IV.

Payment to the American Telephone and Telegraph Company under the License Contract.

(The City's Third Assignment of Error.)

In the expenses of operation as found by the master and the trial court there is an item of "payment for services and instruments" (R. I, 42). This payment is under a contract made in 1889 (R. II, 877) and continuously in force since that time, under which the American Company licensed the Company under its patents and undertook to furnish to the Company the instruments (subscribers' telephones), which it uses in its business, and to perform for it various other services relating to all departments of its business. The payment under the contract is measured by a per cent. of the gross revenue and amounted, in the year 1919, to \$43,528,—(R. II, 965; also Exhibit, R. II, 961)—equal to \$1.65 per telephone station for the year.

This contract was approved by both the master and the trial court. They found as follows:

"That plaintiff gets full value from the amount of money paid to the parent company is clearly and decisively shown by the testimony. * * * I unqualifiedly approve this 4½% payment as an operating charge against the gross income received by the company" (R. I, 41).

"The weight and preponderance of the evidence compel a finding that the 4½% payment made the American Telephone and Telegraph Company is made for valuable and amply sufficient services" (R. I, 44; 59).

The City's Contention.

The City does not question the facts. The proposition presented by it is purely one of law, which is stated in its brief as follows:

"Because * * * the American Telephone and Telegraph Company owns 99 and a fraction per cent. of the stock of the plaintiff * * * only the cost of such service should be deducted from the revenues and charged to the expenses of operation, and there was no attempt made by plaintiff to show the cost * * "" (City's brief, p. 12).

The proposition advanced by the City is further defined at pages 38-9 of the brief, as follows:

"However, our contention is that no matter how efficient these services may be or how valuable, it is not a question of efficiency or value, but a question of the cost of furnishing them."

The brief continues, on page 39:

"The A. T. & T. Co. owns 99 and a fraction per cent of the stock in the plaintiff company which operates the Houston exchange. It is to all intents and purposes the owner, for we take it the court is not going to look at the form of this matter and ignore the substance. So then the cost is the only thing that should appear in the operating expenses which are deducted from the revenues."

The City admits that (p. 39) the cost of the services to the American Company would be a proper operating expense of this Company, even though it exceeded the amount of this payment.

No other challenge of the payment is made. The City does not suggest that the contract should be abrogated and the services dispensed with. It does not question that the services are fully worth to the Company the amount of the payment; that they are of great advantage to the Company; that they are necessary to enable the Company to render efficient and economical telephone service to the public: and that they cannot be obtained anywhere else for less than this payment amounts to. The City's sole contention is that, because the American Company owns the stock of the Southwestern Company. it should render the services at cost, and as the Southwestern Company did not show what the cost to the American Company was, there was a failure of proof essential to the cause of action.

At the time this contract was negotiated, thirty-three years ago, the American Company owned no stock in the Southwestern Company. It acquired its first stock interest in connection with making the contract (R. II, 877). Later, from time to time, it added to its stock holdings. In 1895 it owned 30% of the stock (R. II, 877), not until 1902 did it acquire a controlling interest (R. I, 422), and it continued thereafter to acquire the stock until at the time of the trial it was the owner of practically all of it.

The sole proposition presented by the assignment of error is that in some way the fact that the American Company became the owner of substantially all of its stock changed the relations of the parties under this contract, and that thereupon the American Company became bound to furnish these services at cost, instead of at the contract price. The City claims that the evidence shows that upon this basis \$13,000 would be a fair allowance for the instrument service alone (City's brief, p. 37) and denies that any further allowance should be made on account of the contract, solely upon the ground that the Company failed to show what was the cost to the American Company of furnishing the other services. We remark, in passing, that with respect to the instrument services alone, which the City values at \$13,000, the proof shows that it would cost the Company to furnish them for itself approximately \$28,000 a year (Exhibit 147, R. II, 939-40; Exhibit 121, R. II, 822; R. I, 278-80).

To sustain their contention we submit that counsel must successfully maintain either (1) that the acquisition of substantially all of the stock of the Southwestern Company operated to merge the two corporations, so that they were no longer separate legal entities and so that the entire expenses of the Houston exchange, including those in question, became the expenses of the American Company in fact, or (2) that when the American Company became the holder of substantially all of the stock there arose a new obligation upon its part as a stockholder, namely, the obligation to render the services to the Company without charge. Neither of these propositions can be successfully maintained.

The Company's Contention.

The Company's position is that, as the two corporations are separate legal entities, they may lawfully enter into contracts with each other, and the fact that one of them owns practically all of the

stock of the other in no way impairs this right under the law: and that there are no facts present in this case which take it out of this general rule.

The law applicable to the questions presented, has been many times announced by this court and is well settled.

Pullman's Palace Car Co. v. Missouri Pacific Railroad Co., 115 U. S. 587, at pages 596 and 597.

Porter v. Pittsburgh Bessemer Steel Co., 120 U. S. 649, at page 670.

Leavenworth County Commissioners v. Chicago, Rock Island and Pacific Railway Co., 134 U. S. 688, at page 707.

Humphreys v. McKissock, 140 U. S. 304, at page 312.

United Lines Telegraph Company v. Boston Safe Deposit & Trust Co., 147 U. S. 431, at page 447.

Conley v. Mathieson Alkali Works, 190 U. S. 409, at page 409.

Peterson v. Chicago, Rock Island and Pacific Railway Co., 205 U. S. 364, at pages 390 and 391.

Interstate Commerce Commission v. Stickney, 215 U. S. 98, at page 108.

Chicago, Milwaukee and St. Paul Railway Co. v. Minneapolis Civic and Commerce Association, 247 U. S. 490.

United States v. Strang, 254 U. S. 491.

We cite also the cases in this court which arose under the Commodity Clause of the Hepburn Act:

United States v. Delaware & Hudson Co., 213 U. S. 366, at page 413.

United States v. Lehigh Valley R. R. Co., 220 U. S. 257, at page 273.

United States v. Delaware, Lackawanna & Western R. R. Co., 238 U. S. 516, at pages 526, 527 and 528.

United States v. Reading Co., 253 U. S. 26, at pages 62 and 63.

United States v. Lehigh Valley R. R. Co., 254 U. S. 255, at pages 255 and 256.

The law of these cases is that the ownership by one corporation of a majority or all of the stock of another corporation does not operate to merge the corporate identity of the latter into the former. The two corporations are fully competent to contract with each other.

It is true that to correct or prevent a wrong courts have announced seeming exceptions to the rule, broadly stated as (1) that the separate corporate existence will be viewed as a legal fiction and disregarded when necessary under such conditions to remedy some wrong, and (2) that under such conditions it may be disregarded where a corporation is so organized and controlled and its affairs are so conducted as to make it merely an agency, instrumentality or department of the stockholding corporation. These seeming exceptions are not in fact exceptions. What the court does is not in either case to hold that the corporations are identical, but to hold that for the purpose of correcting some wrong it will treat them as if they were identical. instant case comes within the rule, not within these seeming exceptions. Here there is no suggestion of any wrong. The two corporations have separate businesses, they conduct them independently under the direction and control of their separate boards of directors and officers. The stockholding corporation has not assumed actual control, direction or management of the other. The latter has not become to all intents and purposes a mere department or instrumentality of the former. Their dealings with each other have been, in fact, fair, so that they commended themselves to the master and the court below, and the City does not challenge

these findings.

In the late case of *United States* v. Strang, supra, the question was whether an agent of the United States Shipping Board Emergency Fleet Corporation, all of whose stock was owned by the United States and which, under the direction of the President, had and exercised a specified portion of the power and authority with respect to ships granted to him by the Congress, was an agent of the United States. The court held:

"Notwithstanding all of its stock (the Emergency Fleet Corporation stock) was owned by the United States, it must be regarded as a separate entity."

In Peterson v. Chicago, Rock Island and Pacific Railway Co., supra, the court said:

"It is true that the Pacific Company practically owns the controlling stock in the Gulf Company, and that both companies constitute elements of the Rock Island System. But the holding of the majority interest in the stock does not mean the control of the active officers and agents of the local company doing business in Texas. That fact gave the Pacific Company the power to control the road by the election of the directors of the Gulf Company, who could in turn elect officers or remove them from the places already held; but this power does not make it the company transacting the local business.

This record discloses that the officers and agents of the Gulf Company control its management. The fact that the Pacific Company owns the controlling amounts of the stock of the Gulf Company and has thus the power to change the management does not give it present control of the corporate property and business."

In the Pullman case, supra, the court said:

"The Missouri Pacific Company had bought the stock of the St. Louis, Iron Mountain and Southern Company, and has effected a satisfactory election of directors, but this is all. It has all the advantages of a control of the road, but that is not in law the control itself. cally it may control the company, but the company alone controls its road. In a sense, the stockholders of a corporation own its property, but they are not the managers of its business or in the immediate control of its affairs. Ordinarily they elect the governing body of the corporation, and that body controls its prop-Such is the case here. ertv. The Missouri Pacific Company owns enough of the stock of the St. Louis, Iron Mountain and Southern to control the election of directors, and this it has done. The directors now control the road through their own agents and executive officers, and these agents and officers are in no way under the direction of the Missouri Pacific Company. If they or the directors act contrary to the wishes of the Missouri Pacific Company, that company has no power to prevent it, except by the election, at the proper time and in the proper way, of other directors, or by some judicial proceeding for the protection of its interest as a stockholder. Its rights and its powers are those of a stockholder only. It is not the corporation, in the sense of that term as applied to the management of the corporate business or the control of the corporate property."

The same doctrine is announced by this court in the Porter case, supra, in the following language:

"The mere fact that Crawford owned a majority of the stock did not give him a legal control of the company; nor from such ownership can the legal inference be drawn that he dominated the board of directors."

In contrast with this case is that of Chicago, Milwaukee and St. Paul Railway Company v. Minneapolis Civic and Commerce Association, supra, in which this court held that the separate corporate identity of the switching company, whose stock was owned by two other railroad companies, would be disregarded. In that case the stock ownership was resorted to "not for the purpose of participating in the affairs of a corporation in the normal and usual manner, but for the purpose, as in this case, of controlling a subsidiary corporation so that it may be used as a mere agency or instrumentality of the owning company or companies." Through the instrumentality of the switching company the railroads were unlawfully collecting an extra charge from the public for rendering by indirection a service which as common carriers they were legally required to render without such charge under the conditions of operation which prevailed at Minneapolis. Not only was this the purpose in the accomplishment of which the stock control was exercised, but in order to accomplish it the stockholding corporations had caused a contract to be entered into which took away from the board of directors of the switching company the normal legal control of its affairs in several most important respects, as pointed out and enumerated in the court's opinion.

None of the exceptional elements referred to by

this court in that case are present here.

This Company was incorporated in 1882 under the laws of Missouri.

The American Bell Telephone Company (prede-

cessor of the American Telephone and Telegraph Company) was incorporated in 1880 under the laws of Massachusetts. The American Telephone and Telegraph Company, herein called the American Company, was incorporated in 1885 under the laws of New York.

This Company and the American Company are therefore distinct legal entities. They are and always have been engaged in separate and independent businesses.

This Company operates telephone exchanges for local service in the cities and towns throughout five southwestern states and a toll system connecting the exchanges throughout the same territory, and owns all of the property devoted to these services.

The American Company, on the other hand, does not and never has owned or operated any telephone exchanges (R. I, 222). It owns and operates a long distance system extending over the larger part of the United States, furnishing long distance telephone service that is supplementary to the toll service furnished by this Company and by other so-called Associated Companies of the Bell System in the different sections of the country. The American Company does no telephone business in Texas (R. II, 736).

It appears, therefore, that the property and businesses of the two companies are separate and distinct, and separately owned and operated. They are independently managed, each by its own board of directors and officers.

The circumstances under which the American Company acquired the stock of the Southwestern Company have already been stated.

These are the undisputed facts.

They negative the idea that the Company is merely an instrumentality of the American Company. They negative the idea that the American Company is attempting to accomplish any wrong, either through the Company or otherwise. These companies are separate entities, performing separate functions. When the court looks beyond their separate legal identity it sees nothing that is illegal or inequitable.

The record shows that the American Company has an identical contract with each of the "Associated companies" of the Bell System. One of these companies is the Southern New England Telephone Company. When the contract was made with it the American Company owned forty-three shares, an insignificant part, of its stock (R. I, 422). It now owns 33% (R. I, 421). Another is the Cincinnati and Suburban Bell Telephone Company of whose stock the American Company owns approximately 30% (R. I, 389). If identity could be argued in the instant case from these relations, it could be argued with like force in these other two cases, where the holding is a minority holding.

This license contract is the basis of the organization that permits the subscribers of the Company and of the Southern New England Company and Cincinnati Company to talk to each other. It is the basis which permits the development of their telephone business along common lines. It is the basis which affords to each one of them all that is new and good in the art. The relationship to each so far as the American Company is concerned, is identical. If one of these companies is an instrumentality of the American Company then each of them is an instrumentality of the American Company. The stock ownership does not determine the question of separate identity, but is something that is entirely independent of it.

The authorities demonstrate that the fact that the American Company is the owner of all of the stock of the Southwestern Company does not in

law merge the two corporate entities; they are separate corporations. Counsel do not in terms deny this. Their contention, therefore, must rest upon the legal proposition that there is an obligation on the part of a stockholder who is a sole stockholder to furnish services to the corporation without charge for them. Putting it concretely, their proposition must be that this contract, admittedly valid when made; admittedly valid when the American Company acquired additional stock, and admittedly valid as it continued to acquire additional stock, was abrogated by the fact that the American Company became the controlling stockholder, or practically the sole stockholder. This is novel doctrine as to the rights and obligations of stockholders. The American Company, because it has invested its capital in this public enterprise by purchasing the stock of the corporation which owns and conducts it, is to be penalized in this way. Counsel say that the American Company gets dividends on the stock (though not any from Houston) and therefore must be denied any profit from the contract. But this confuses the two relationships; the dividends are the reward of capital invested, and have nothing to do with services rendered.

It being established that the corporations are separate legal entities, and that no facts are present here which can operate to impair their right to contract as such, there can be no doubt that, there being no charge of bad faith or improvidence, whether this contract should be continued or not is solely a question for the management.

Chesapeake & Potomac Telephone Company v. Manning, 186 U. S. 238. Interstate Commerce Commission v. Chicago, Great Western Ry. Co., 209 U. S. 108. Southern Pacific Co. v. Interstate Commerce Commission, 219 U. S. 433.

Northern Pacific Ry. Co. v. State of North Dakota, 236 U. S. 585.

Great Northern Ry. Co. v. State of Minnesota ex rel. Railroad and Warehouse Commission, 238 U. S. 340.

Chicago, Milwaukee and St. Paul Ry. Co. v. State of Wisconsin, 238 U. S. 491.

This disposes of the assignment of error and we might dismiss it here without further discussion. But as the continuance of this contract is of the utmost importance to this Company, as it is also to all of the operating companies of the Bell System throughout the United States, their business being founded upon it and their entire organization, methods and equipment shaped in conformity to it and in reliance upon its continuance, we feel constrained to set forth the character and importance of these services in somewhat greater detail, in order that there may be no possible inference that we are standing upon a technical position, as well as in order that there may be no doubt in the minds of the court concerning the fairness and value of the contract to this Company. It is not too much to say that it is largely due to the operation of this contract from the inception of telephony that the art has developed to its present high state and that the industry in this country has always stood preeminent, far in advance of any other country in the world. importance of this subject to the public, no less than to the industry, justifies this further detailed consideration, if the contract needs any further defense than the matters already set forth in the preceding pages.

Origin and Development of the License Contract.

The American Bell Telephone Company, predecessor of the American Company, acquired from Alexander Graham Bell, the discoverer and inventor of the telephone, his original letters-patent of the United States, No. 174,465, granted March 7, 1876, and No. 186,787, granted January 30, 1877 (R. II, 881), which mark the beginning of telephony.

From the beginning the American Bell Telephone Company followed the plan of granting licenses to others to use the company's instruments in designated territories under a "License Contract". It did not itself engage in the business of furnishing telephone service but left that field to those who sought and obtained territorial licenses.

The telephone instrument acquired from Professor Bell would now be considered very crude. His great contribution was the scientific conception. Before a practical telephone could be offered to the public both the telephone instrument and auxiliary apparatus had to be created. Practically the entire art had to be created (R. I, 208; 214; 270).

A practical telephone instrument was early developed by the parent company, and there followed a ready demand for territorial license contracts. At least as early as 1885 the state of Texas had been covered under a license contract entered into with a company known as the "Erie Company", and it was already operating under this license in that state in that year (R. II, 876-7).

In 1889 The Southwestern Telegraph and Telephone Company took over the rights of the Erie Company in Texas. On July 27, 1889, the license contract between The Southwestern Telegraph and Telephone Company and the American Bell Telephone Company was entered into (R. II, 877). This contract is found in Exhibit 146 (R. II, 876-901).

While there have been many modifications, in broad essentials this original contract defines the relationship that has existed between the two companies ever since.

The parent company pursued the same business policy throughout the United States and used the same form of license contract. Such contracts were early entered into generally throughout the country. In this way what came to be familiarly known as the "Bell Telephone System" was formed, comprising the American Company, commonly known as the parent company, and the several licensee companies, the operating companies, which have come to be known and are generally referred to in this record as the "Associated Companies" of the Bell System, of which this Company is one (R. I, 205-6).

The business at the outset was comparatively simple and crude. "Switchboards" and "centrals" were unheard of. There were no call bells, signaling the party called to the telephone. In fact almost none of the thousands of parts that now constitute the equipment of a telephone plant were then in existence (R. I, 208).

The American Company applied itself from the start to the development of the science and art.

It developed the switchboard, which displaced the private lines and made possible a community service through central offices.

Then, one after another, the American Company developed or acquired and patented, whenever patentable, improved transmitters, hard drawn copper wire, the common battery system, fine wire cable, loading coils, repeaters, etc. (R. I, 271-2; 215; etc.).

These are merely a few typical examples.

Under the license contract the Associated Companies had the right to use all these patents and improvements within their territories. This has been true as to all patents and improvements ever since and applies to the 5,000 patents owned or controlled by the American Company to-day, covering nearly everything in the telephone art. The payment to the American Company under the license contract has always been the consideration for these rights.

The Associated Companies required the expert advice and assistance of the American Company's staff in order to utilize these improvements and inventions, and the staff grew rapidly in numbers and in specialization in order to meet the demands made upon it by the Associated Companies (R. I, 208-9).

The original line of separation of functions has continued. The American Company devotes itself to the development and research, specialized engineering, specialization in every phase of the industry; the Associated Companies to operation. The parent company has never engaged in the exchange business, though it has, as stated, for a long time owned and operated a long distance system throughout the country, supplementing the toll systems of the Associated Companies.

If there were nothing else of value to this Company and the public under the License Contract but the services now being rendered and actually utilized in the conduct of its business today the payment would be more than justified. But no doubt the greatest single feature of the contract

is the undertaking by the American Company that it will continuously prosecute the work of improving the art and science through development and research and will make available to the licensee company the results of that work, both as represented by all patents that the American Company develops or acquires, as well as all methods, systems, etc., that it develops (R. I, 208-10; 408-9, and much other testimony).

The license contract has been modified from time to time dating almost from its inception, although, as stated, it has retained its original fundamental character.

Every change in the contract from first to last has been in the direction of larger benefits to the Associated Company and smaller payments to the American Company (R. II, 877; I, 335). This appears here without dispute.

In the matter of the payment to the American Company, originally this was for the right to use (they have never been sold) a set of instruments. The original payment was \$14.00 per set per annum (R. II, 877; I, 335). Later it was modified so that the sum varied according to the amount charged the patron, which had been made to vary according to the class of service.

In 1902 the basis of the payment was changed. A percentage of the exchange revenue, with certain minor exclusions, was taken as the basis. This was fixed by agreement at 4½% of such revenue. This change constituted a further considerable reduction in the amount of the payment (R. II, 877; I, 335). The payment today remains at 4½% of the exchange revenue of the licensee, with certain minor exclusions. In this case it amounted, in 1919, to the sum of \$43,528, or \$1.65

a year, or less than 14 cents a month per telephone.

Under the license contract today the American Company provides for the Company at Houston, the following:

- (a) Telephone transmitters and receivers, with induction coils, including a surplus supply to cover current demands;
- (b) Rights under all patents owned or controlled by the American Telephone and Telegraph Company covering the use of telephonic devices, apparatus, methods and systems;
- (o) The right to use all standardized new and improved apparatus and methods developed through research and experimental work;
- (d) A guarantee of freedom from royalties, damages and expenses, on account of patents, arising out of recommended uses of apparatus, methods and systems;
- (e) An organization to prosecute continuously the fundamental work of research and investigation to the end that safety, economy and efficiency in the business may be promoted;
- (f) Advice and assistance in general engineering, plant, traffic, operating, commercial, accounting, patent, legal, administrative, and other matters involved in the efficient, economical and successful conduct of the business;
- (g) Advice and assistance in the financing necessary in order to develop and enlarge its plant;
- (h) Assistance, co-operation and support in promoting the health and welfare of employees, including the Plan for Employees' Pensions, Disability

Benefits and Death Benefits, with a provision for guaranteeing the integrity of the funds provided by the associated companies for this purpose.

(i) The right to extend to its connecting companies, for the general betterment of the service, the benefits of such engineering and other technical advice and information as the licensee may have received from the American Telephone and Telegraph Company.

This relationship under the license contract involves no duplication of functions (R. I, 208-9; 280-1; 345; 371; 393; 395; 398-9; 417; and other testimony). This Company is an operating company purely, while the business of the American Company now under consideration is not a public utility business at all. It is that which it engages in as the owner and licensor of telephone and related patents, as consulting telephone engineers, as a company engaged in scientific research and development in telephony, etc.

Instrument Service.

This includes, as already explained, furnishing to the Associated Companies the vital parts of the telephone instruments—the receivers, transmitters and induction coils, the repair of the instruments, and their replacement when outworn or a better type is developed.

The advantages of this service to the Associated Companies are: (1) telephone instruments of the best class; (2) an adequate supply of such instruments at all times, including emergency requirements, with no temptation, for the sake of economy, to keep them in use longer than is consistent with the best service; (3) standardization of instru-

ments (R. I, 338-9). Without this standardization, a universal telephone service is not possible. Nor can there be an efficient service.

In 1919 it would have cost the Company \$25,540 to duplicate for itself the instrument service of the American Company, or approximately two-thirds of the total contract payment (R. I, 340).

Patents.

From the date of Dr. Bell's discovery until today the entire telephone art has been covered by patents. As a part of its patent service the American Company has not only extended to the Associated Companies rights under its own inventions but has acquired for their use rights under all other patents which were essential to the economical and efficient development of the art. What it has undertaken to do is to provide an absolutely free field for the development of the art along the soundest and best lines (R. I, 269-76). The record shows some 5,000 or 6,000 patents of this class (R. I, 269, 354).

Research and Development.

For the benefit of the Associated Companies the American Company maintains a department (of which Brig. General John J. Carty, a Vice President of the American Company, is the head), made up of a large staff of highly trained, specialized experts, exclusively engaged in the search for what is best in the telephone art, a service unapproached by any other organization in the world.

The discoveries of these experts in every branch of the science, the improvements they bring about in the way of any device, apparatus, equipment or method, are directly available to the Associated Companies. This staff is subdivided into an executive staff, a legal staff, an engineering staff, a financial staff, and an accounting staff.

The engineering staff, alone, comprises 550 persons, of whom 275 are expert engineers (R. I, 207-219). Its achievements range from wireless telephony to the prevention of cable trouble by insects; from developing a cheaper cable sheath, more usable and durable cords for switchboard connections, to problems in induction and electrolysis, etc. (R. I, 220 and following; 336, 348).

The development by the engineering staff of hard drawn copper wire to take the place of iron wire has made possible the expansion of the business

into a system (R. I, 255-6).

Cable development is another great result of the work of the engineering staff. Its work in this development covers a period of thirty years. An early cable contained 50 wires, insulated in rubber—an unsatisfactory insulation. By 1892, it was possible to put 200 wires, or 100 pairs, in a sheath. By 1895, it was 300 wires. In 1896, 400 wires. In 1900 and 1901 it was 600 and 800. In 1902, 1,200. In 1912, 1,800. And in 1914, by the use of No. 24 gauge wire it had reached 2,400 wires (R. I, 227-8).

By the use of this latest type of cable, it was possible in 1914 to place in one duct of underground conduit as many wires as the 1888 type of cable would have required twenty-four ducts to accommodate (R. I, 229).

There have been 66 different types of transmitters standard at one time or another and furnished to the Associated Companies, but which through development are now obsolete and supplanted by a better type (R. I, 275).

These are merely illustrative things that the American Company has placed at the use of the Associated Companies under the license contract.

General Advice and Assistance.

Under this service the Associated Companies receive advice and assistance as to general engineering of plant, traffic, operating, commercial, accounting, patent, legal, administrative and other matters relating to the successful conduct of their business. This service is constant and of great volume. It is specific as to particular matters, by conferences, correspondence, and field work, as well as general through bulletins, circulars and periodical publications (R. I, 205-210; 222; 336; 370).

Financial Services.

These cover advice and assistance in financing, aid in obtaining funds on fair terms for new construction and other expenditures, as well as direct loans from the American Company; and active assistance in marketing the Company's securities, with such other necessary financial support and assistance as will tend to serve the best interests of the Company (R. I, 440-450; 370).

On one transaction alone, involving the sale of notes owned by this Company, the American Company saved it \$38,000 (R. I, 441-2).

Accounting Services.

These include accounting standardization; periodical auditing; expert advice on accounting methods, and all sorts of statistical advice (R. I, 336).

The Services are Necessary for the Efficient Conduct of the Company's Business.

A mere recital of the nature of the services renders this not debatable.

The Value of Only a Few Easily Evaluated Services is Several Times the Total Payment.

The proof is specific here.

Statement of the annual savings through a few evaluated services:

	17,000
New alloy for cable sheaths	2,200
Improvements in switchboard cords	14,100
m 4-1	2169 940

If the savings on account of instruments be deducted from the total payment and from the total savings, there remains a balance of the payment amounting to \$17,988 on account of all the other services covered by this contract, four of which are evaluated at \$137,300 (Exhibit 152, R. II, 941; I, 353-4). These figures are significant but their chief significance is in what is omitted. It is impossible to evaluate the benefits of universal service, the benefits that are derived from patents, the benefits that come from the assurance that whatever there is good and new in the art shall be available to this Company, the benefits that come from efficient and standardized operating methods, the financial benefits, the benefits that arise out of mistakes that have not been made, with the elimination of an experience account. These are the big things that find their ultimate expression in the recognized pre-eminence of the telephone service of the United States, both as respects its quality and universality, and as respects what it costs the public.

The license payment of this Company for the year 1919 amounted to \$1.65 per telephone station per annum. Of this amount Mr. Pennell testified \$1.10 per station would be required by the Company to cover the instruments alone, leaving 55 cents per station to pay for all the other services (see also the testimony of Mr. Rhodes, Plaintiff's Exhibit 121, R. II, 821, and R. I, 280).

The mere enumeration of these other services is sufficient to convince any reasonable mind that they are worth more to the Company than 55 cents per station a year. Fifty-five cents a year amounts to 4.6 cents per month per station, and is an amount so small that its effects could not be reflected in any rate schedule. A subscriber could not tell whether he had paid the charge or not.

Mr. Pennell, this Company's Chief Engineer, testified that if it undertook to do for itself the work that is done for it by the American Company under the license contract, it would cost the Company more than the amount of the payment (R. I, 388); and that the payment "saves us (the Company) far more than we ever put into it" (R. I, 360-370); also, that there is no other way than through the license contract that the Company can obtain the services for its Houston exchange, because there is no "other body of men in existence in the world that could render that service" (R. I, 371).

Mr. Blair-Smith, Comptroller of the American Company, testified with respect to the financial services alone that there could be "no doubt whatever that it has been most advantageous to the Southwestern Company" (R. I, 452).

Mr. McBurney, Assistant General Manager of the

Cincinnati Company, in which the American Company has a minority holding of 30%, testified that the contract is "very advantageous" to the Cincinnati Company, that "it is worth more than we pay for it," and is "indispensable, because the services we obtain from the American Telephone and Telegraph Company cannot be obtained from any other source" (R. I, 393).

Mr. McBurney further testified that if his company did not have the contract with the American Company he would "most emphatically" consider it a sound business proposition to enter into it, and that the executives of his company, as a whole, consider it "very valuable" and know that they are getting their money's worth (R. I, 394, 411).

Mr. Moran, President of the Southern New England Telephone Company, in which the American Company has a minority holding of 33%, testified that his company continues the license contract with the American Company because it considers the arrangement of very substantial value to it, and further that if the company did not have the contract he would consider it advisable and advantageous to make it (R. I, 415). He testified further that this arrangement has been in effect for about 40 years, and that throughout its history it has worked to the entire satisfaction of his company, and that his company has considered its interests best served by the continuance of the contract (R. I, 420).

The proof is overwhelming that the services received by the Company in return for the payment are worth many times what it pays for them. This fact alone is sufficient to negative any possible contention that its officers have practiced any abuse of discretion in continuing the contract in force.

The Services Cannot be Obtained Otherwise by this Company for Less than is Paid for Them Under the Contract.

The record is again clear here.

Mr. Rhodes, Engineer of the American Company, testified that he did not know of any other concern or organization anywhere that could furnish the services at all (R. I, 280-1).

Mr. Blair-Smith's testimony is to the same effect. He testified "my opinion is that the Southwestern Company could not get such an arrangement with any other company in the world; the benefits to the Southwestern Company are far greater than the outlay and the cost to it" (R. I, 465).

Mr. McBurney testified his company could not perform the services for itself even if it had the money to prepare for them; and if it had the money and capital to render the services for itself it could not get the advantage of the accumulated experience of the Bell System (R. I, 395).

Mr. Pennell, the Company's Chief Engineer, testified that the Company could not afford, from a financial standpoint, to have a department such as the American Company maintains, even on a small scale; that even if it undertook to provide a small department, the services it could render would not approach in value the services received from the American Company (R. I, 345).

Counsel say in their brief that this Company has its own engineers who are competent to handle its problems and that therefore the engineers of the American Company represent a duplication. But the record shows that the contrary is the fact. This Company's engineers are competent. But they are operating engineers in the field, whereas the engineers of the American Company are development, research and consulting engineers (R. I, 217; 417). Each is a specialist in his own field (R. I. 213-14;

217).

The contract makes directly for an avoidance of duplication. If the general research and development work done by the American Company were undertaken by the Associated Companies, it would be carried on simultaneously in a number of places all over the country. Under the contract the work is done by a department centralized in the American Company and by men who are specialists in their field, transmission engineers. induction engineers, electrolysis engineers, etc. The American Company has the advantage of the experience and knowledge gained in this Company's territory and in the territories of all the other Associated Companies. The record is that the arrangement results in better work being done, better service afforded, and an avoidance of duplication (R. I, 208-9; 280-1; 345; 371; 393-5; 398-9; 414; and much other testimony).

Not only is this true, but independent development such as has been mentioned would necessarily be along divergent lines, which would not only destroy the economies which grow out of standardization (R. I, 246-7; 255-6), but would render impossible the universal service that is characteristic of the United States and is based upon standardi-

zation.

This Company's managing officers had the right to act as ordinary business men and gauge the value of this contract by its value to this Company. Judged by this standard it is beneficial and advantageous.

The board of directors needed only to ask themselves, (1) are these things reasonably necessary in our business, (2) are they worth what they cost, and (3) can we obtain them for less? If a reasonable board of directors might reasonably,—that is, in the exercise of a sound business discretion,—answer "Yes" to the first two questions, and "No" to the third, neither the City nor the court could gainsay them.

To disallow the payment is to hold the contract void. The American Company is under no obligation to furnish these instruments, patents, and services except the obligation of the contract. If that is void the Company must obtain these things on other terms. Would the people of Houston be better or worse off if this Company, for example, should be obliged to pay specific royalties on all the patents; to create and maintain its own Development and Research Department; to employ its own expert staff; and so on? How much would it cost? How much of the benefits it now obtains under this contract would be lost to the Company and to the public? That it would not cost less is settled by the unchallenged finding of the court below in this case. That much would inevitably be lost is shown by the uncontradicted proof. If it were obliged to pay on a quantum meruit basis, how much would it. amount to? These are the alternatives.

V.

Depreciation.

(The City's Fourth Assignment of Error.)

The Master found that 6.33% was the proper rate of depreciation, applied to the value of the physical property alone, of \$5,500,000 (R. I, 41-2). The trial court aproved this rate applied to the amount of the investment, as found by the court, of \$4,671,567 and allowed 6.33% of that amount or \$289,380 (R. I, 58). The City contends upon this assignment of error that the rate should have been 4% instead of 6.33%.

In the rendition of its telephone service the company uses up the property which constitutes its plant. The property so consumed, less what is realized as net salvage, constitutes a part of the cost of rendering the service. This cost item must appear in the operating expenses if they are to correctly reflect the cost of the service. As to the accounting methods applied to these facts, the company is without any discretion. They are prescribed by the Uniform System of Accounts established by the Interstate Commerce Commission for the use of telephone companies (R. II, 799). In effect, the requirement is that during the period of the useful life of the property there shall be charged to operating expenses and credited to the account called "Reserve for Accrued Depreciation" an amount equal to the property used up, plus the expenses incident to its retirement, less the amount of any salvage. These charges and credits are to be made in equal monthly installments. The total amount charged is to be based upon rules derived from consideration of the company's history and experience (Plaintiff's Exhibit 11, at page 67 thereof, R. II, 799).

The practical application of this rule requires that there be determined as matters of fact the useful life of the property and the net salvage; that is, the salvage after the payment of the cost of retiring the property. If a switchboard be taken as 100%, and it be determined that in fact its life will be fourteen years and the net salvage will be 30%, then, deducting the 30% from the 100%, there remains 70% to be provided for through charges to operating expenses and credits to the account "Reserve for Accrued Depreciation" during this fourteen years of useful life. amount to be so charged during each year would obviously be 1/14 of 70%, or 5% of the original factor, and during each month 1/12 of this 5%. When these factors have been worked out as to each item of depreciable plant, it is merely a matter of mathematics to obtain the composite percentage which should be applied to the entire plant.

In passing, it may be noted that while in the accounting rules the term "Reserve for Accrued Depreciation" is used to designate the account to which the credits are made, corresponding to the charges to operating expenses, no reserve, in the sense of a special fund set aside, is actually maintained. The money represented by the charges to operating expenses and the credits to this account is invested in plant, so that as capital is used up other capital replaces it and the total capital is not impaired.

It is perhaps worth while to note also that the amount of these charges is wholly independent of the question of renewals. The material question is the expense on account of property used up in rendering the service. This expense is the same whether renewals are made or not. If a switchboard is used up, neither the fact that the expense is incurred nor its amount can be in any way affected by whether the switchboard is ever replaced or not, or when it is replaced. As a matter of fact, it is very seldom that any property is actually renewed. Where property is displaced almost invariably what is substituted for it is property of a different character.

The proof adduced by the Company was in accordance with the accounting rules that have been referred to (R. I, 519-58, II, 559-71; II, 800-809). Based upon the experience of the company over a long series of years, it established from the lives of the different parts of the plant a composite life of the plant as a whole, with the amount of net salvage which experience showed might be anticipated, and from these factors deduced the percentage which was approved by the Master and by the court below as the proper percentage to be applied in order to carry out the requirements of the system of accounts prescribed by the Interstate Commerce Commission, as well as the one necessary to adequately protect the company upon this item of expense.

The only testimony presented by the City upon this question was that of Mr. Kelsey, who is referred to in the City's brief, page 40, as having had "more than twenty-five years practical experience in the telephone business". But Mr. Kelsey testified that he had never made a study of the rate of depreciation that should apply to the different parts of the plant (R. II, 574), and when interrogated on the subject of the average life of the

property, stated, "I know nothing about average life" (R. II, 606). What he did was to apply a rule of thumb that "total maintenance"—the sum of current maintenance and depreciation-should be \$11.00 per station per annum, and that depreciation to be allowed in any year would be the difference between this amount and the actual current maintenance, whatever that might happen to be (R. II, 572). This rule, which is as arbitrary as it is artificial, and wholly ignores the requirements of the Interstate Commerce Commission's accounting system, he would apply irrespective of the value of the property (R. II, 612) or the proportion of long lived underground plant to relatively short lived aerial plant (R. II, 576), or the changes in the cost of current maintenance due to changing price levels (R. II, 574-5). And when he was asked whether any court or commission had ever accepted his method for computing depreciation he answered. "A court or commission don't concern me: I never made a dollar out of a court" (R. II, 606).

Counsel comment upon the fact that the plant was in excellent physical condition at the time of the trial. If a switchboard has a life of fourteen years and a net salvage value of 30%, the physical condition of the switchboard at any time during this period does not affect the amount of the periodical increments which must be charged to operating expenses and credited to the depreciation reserve to provide for the 70% that is being used up during the period of its useful life.

In this connection counsel point to the difference between what they call the "realized depreciation", that is, the amount of the charges to the depreciation reserve on account of property renewed in any year, and the amount of the credits to the reserve for accrued depreciation during the same year. But this argument shows a plain misapprehension by counsel of the effect that rapid and continuous growth in plant has upon the relation of these two In this case the book cost of items to each other. the property in 1919 was thirteen times its cost eighteen years prior to that time, in 1901. plant that is being renewed is the old plant. Where a plant is growing so rapidly as this one, if the average life be assumed to be about 14 years, today the small plant that existed fourteen years ago is being renewed, while the credits to the reserve for accrued depreciation are based upon the large plant existing to-day, which will have to be renewed fourteen years hence. If the account "Reserve for Accrued Depreciation" was built up on the basis of the plant being renewed today, it obviously would only be large enough to provide for such a plant and would be an entirely inadequate provision for the very much larger plant of today.

As the average plant in use grows year by year the amount in dollars of the credit to this account increases year by year. As the charges to this account on account of plant displaced are made year by year they will also increase, but they will always be smaller because the plant displaced is the old. small plant, so long as the plant continues to

grow.

In the absence of facts showing an abuse of discretion, the provision which should be made for depreciation is a matter within the jurisdiction of the management of the corporation. Its determination requires the exercise of judgment because through these charges provision is being made for future contingencies. Just as the actuary of an insurance company cannot tell when any person insured by the company will die, so it is impossible to say exactly when any pole or building or switchboard, or any other piece of plant, will go out of While this is true, it is also true that the recorded experience of the telephone engineer covering a long series of years, like the experience available to the actuary, enables him to predict average results with remarkable accuracy. management requires that the integrity of the service and the integrity of the property be insured by adequate provision for expense items which cannot be exactly known in advance. long as the action of the management is predicated upon intelligent judgment honestly exercised, it should not be interfered with by courts or regulatory bodies.

VI.

Rate of Return.

(The City's Fifth Assignment of Error.)

The Master found that 8% would be a fair return under present conditions and the trial court approved this finding (R. I, 58). The City assigns error, claiming that this should be reduced to 6%.

In its opinion, the district court cites Lincoln Gas & Electric Company v. City of Lincoln, 250 U. S., 256, and quotes what this court said there on this subject, as follows:

"It is a matter of common knowledge that owing principally to the World War, the cost of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and largely since this case was last heard in the court below. And it is equally well known that annual returns upon capital and enterprise the world over have materially increased, so that what would have been a proper rate of return for capital invested in gas plants or similar public utilities a few years ago, furnishes no safe criterion for the present or for the future."

The Company introduced a considerable amount of testimony of bankers and other men of Houston whose business it is to be informed upon this subject, and who showed themselves fully conversant with the facts (R. II, 619-660). Their testimony would sustain 10%. It is true, as the City's brief says, that some of them testified to a rate as low as 6 or 7% on business property in the community. But this testimony has reference to first mortgage loans on the best and most favorably situated business property in Houston, in an amount not to exceed 60% of its value, the borrower to pay all commissions and expenses incident to making the They regarded such loans as prime, giltedged investments, involving a hazard practically Loans on choice residence property negligible. to an amount not to exceed 50% of its value, and otherwise on the terms above stated, were commanding 71/2 and 8% and, in some instances, as low as 7%; first mortgage loans on unimproved farms, 8%, improved farms as low as 7%; prime commercial loans, short time, the money remaining on deposit in the lending bank, so that the bank retains the use of the greater part of the money, 63/4 % to 7%. They regarded the security for all these loans as excellent.

In order to sell telephone stock, local investors would demand practical assurance of dividends of 10%. The investor would not be concerned simply with the value of the physical property of the utility but would require assurance as to its earnings which, in view of the attitude of the city government in the past, would not be forthcoming. Under existing conditions, very little capital would be found available in Houston for investment in telephone stock (R. II, 619-660).

There is much additional testimony in the record concerning the current return on capital invested in other lines of business, in banks, manufacturing and mercantile lines, in bonds of public utilities, etc. All of it supports the finding in this case. We do not deem it necessary to take space to review that evidence.

The only testimony on this subject offered by defendant is that of the City's expert, Lyndon. He testified:

"But I am very definitely on record in a large number of cases, that 8% is a proper, rational return and, under ordinary conditions, for any public utility, and that 7% is a proper return until we get away from this period of inflation of wages and every other cost that a utility and an individual now suffers. I do not think that every increase in price should be passed on to the consumer, or to the user of your service and then a continuous flat 8% be maintained" (R. III, 1217).

If 8% is the fair rate of return under ordinary conditions, as this witness testifies, it is clear that 10% would not be excessive under present conditions.

Mr. Lyndon did not know of any place where plaintiff could get money for less than 8% (R. III, 1217).

The record shows that 10% on loans is lawful, that is, not usurious, in Texas (R. II, 624).

Much more significant than the legal rate of interest as provided by the statutes of Texas are certain statutory provisions covering the rate of return which public utilities shall not be deprived of the right to earn, by the cities in the exercise of their power to regulate rates. The legislature has fixed 10% per annum "upon the investment" or 10% per annum "on the actual cost of the physical properties, equipments and betterments" as the minimum rate of return.

Article 1018, Complete Texas Statutes for 1902, which confers upon city councils the power to regulate by ordinance the rates of water, gas, light and sewer companies, concludes with the following proviso:

"* * Provided, that the city council or board of aldermen shall not prescribe any rate or compensation which will yield less than 10% per annum net on the actual cost of the physical properties, equipments and betterments" (Acts 1907, p. 217, section 1).

Article 1028 (Acts 1905, p. 348, section 4), which is made specifically applicable to "telephone companies, furnishing telephones to the public" by Article 1031, Section 7 of said Act, provides for an appeal to the courts from any rate fixed by the city and contains a similar provision, as follows:

"After a full hearing of all the evidence adduced by the parties, the court or jury shall have power, and it shall be their duty to fix the rates which may be charged by such public utility corporation, provided, that the rates fixed must be sufficient to yield such public utility company not less than 10% upon the investment, and the same shall continue in force for a period of three years."

We might have dismissed this question of rate of return, at the outset, as academic, since there was no return whatever from the rates in issue; but upon a consideration of the question upon its merits it is clear that 8% is not too high—indeed it might be argued with great force that it is too low—and that this assignment of error is without merit.

VII.

Purchase of equipment and supplies, and certain services from the Western Electric Company, Inc.

(The City's Sixth, Seventh and Eighth Assignments of Error.)

The City groups and argues together these three assignments of error (City's brief, p. 41). Two of the matters embraced by them are covered by previous assignments and argued in earlier sections of its brief. We have likewise argued those matters in preceding sections. The only new matter now presented for consideration is that indicated by the caption above.

This Company purchases the greater part of its equipment and general supplies, and obtains certain services, from the Western Company.

The whole course of the dealings between these two companies was gone into exhaustively upon the trial, and the Master and the trial court approved them as fair and advantageous to the Company, and legal (R. I, 44; 57). The City excepted to the Master's findings, and assigns error upon the action of the trial court in overruling its exception (City's twelfth exception, R. I, 48).

The City's contentions are:

- (1) That whatever profit the Western Company makes out of its transactions with the Company, so far as they relate to Houston, is the profit of the American Company, because the American Company owns the greater part of the stock of the Western Company. Such profit accruing to the American Company is the profit of the Southwestern Company, plaintiff, and must be credited to the Houston exchange as part of its revenues, because the American Company owns the stock of the Southwestern Company and hence is the actual plaintiff.
- (2) That the Western Company charges this Company exorbitant prices for equipment and supplies, and makes exorbitant profits out of these dealings.

The first contention is purely one of law, and the second purely one of fact.

The Question of Law Presented by the City.

The facts that bear on this question.

The Western Company is a manufacturing and merchandising corporation organized under the Business Corporation Law of the State of New York in the year 1915. (Its predecessor was an Illinois corporation organized in 1881.) Its principal business is, and always has been, the manufacture of telephonic equipment and apparatus of all kinds. The only relationship that has ever existed between the Company and the Western Company is the contractual one to be presently described. The two companies are separate and distinct corpora-

tions, organized at different times under the laws of different states and engaged in prosecuting businesses that are not only separate and distinct, but of an entirely different character and scope-the one, a telephone business confined to a few southwestern states, the other, a manufacturing and merchandising business extending throughout the world. Their officers and managing personnel are entirely different; there is no intercorporate stockholding, although the American Company owns most of the stock of both. In a word, the only contact between them is that which arises out of the fact that the Western Company has things to sell which this Company requires in its business and finds it advantageous, as the proof and the findings of the Master and the court show, to buy from the Western Company.

What we have said above may be said also concerning the relationship between the American Company and the Western Company, except that the American Company owns all but a small, though by no means inconsiderable, minority of the stock of the Western Company. The American Company exercises this stock control in a normal, fair and legal manner. It elects the directors of the Western Company, and in that sense and no other controls its business policy. Aside from that the Western Company is wholly independent of the American Company. There is a contract between them, entered into at the inception of the telephone industry about forty years ago, under which the Western Company is the licensed manufacturer of telephone equipment and apparatus of all kinds covered by the patents owned or controlled by the American Company. There is the closest cooperation between the two companies which, as the record shows, is in

the interest of the telephone industry and redounds directly to the advantage of the telephone using public (R. I, 218; and much other testimony).

At the earliest stages of the telephone industry the American Company owned the basic telephone patents and early developed and acquired large numbers of patents covering practically every improvement in the art as it was made. It was not and never has been a manufacturing company. It was necessary for the American Company to license a manufacturer to make and sell under its patents

The Western Company was an agged in the manufacture and sale of telegrame and telephone equipment and supplies, and was elected as the American Company's licensee because of the excellence of its products as compared with those of competing manufacturers (R. II, 663). The policy of the American Company then, as now, was to make available to the operating companies the very best apparatus and equipment that could be had (R. II, 815). These were matters of management.

In connection with this question of management and the action of the American Company in licensing the Western Company, it is worth while to note here that it was not only necessary that there be a dependable adequate supply of well-made apparatus, but also to take into account the peculiar nature of the telephone industry. various pieces of apparatus are co-ordinated and adapted to each other, such as the lines, the switchboards and the instruments. Switchboards are bought in sections, additional sections being added until the capacity of the exchange is reached. These facts deprive telephone companies of the opportunity to resort to competitive bidding when they want additional apparatus. Having adopted the apparatus of one manufacturer, they are required to continue its use until they are ready to abandon it and adopt that of another. These factors must be taken into account if one is to consider the question whether the American Company acted wisely in endeavoring to control the manufacture for the Bell System, instead of permitting the Bell System to be controlled by the manufacturer, and also whether the Southwestern Company acted wisely in patronizing this manufacturer. matter of common knowledge that the telephone industry is the only electrical industry whose development is not controlled by the manufacturers. The Bell System is in a position to require that its apparatus be designed not only with reference to its present needs but also with reference to the lines along which the art is developing, so that the greatest efficiency and greatest economy may be accomplished (R. I, 219; II, 663).

The business between the Company and the Western Company is covered by a contract between them known as the "Supply Contract". Each of the Associated Companies of the Bell System has a similar contract with the Western Company (R. II, 662). A form of the contract is in the record (Exhibit 141, R. II, 827-31), and supplementary letters and documents setting forth addenda and certain modifications of the contract (R. II, 832-47). This contract embraces three general classes of transactions, as follows:

1. Purchases of Articles of Western Electric manufacture. The telephone system of the Company is equipped with the instruments and appliances, covered by the American Company's patents, that are standard in the Bell System. The Company purchases them (except the instruments)

from the Western Company upon the terms provided in the contract, which are:

- (a) Underground, aerial and submarine cable manufactured by the Western Company, if shipped from factory, at factory cost plus 8% of such cost; if shipped from storeroom, factory cost plus 10%. Factory cost shall include only the cost to the Western Company of productive labor and materials, and that portion of the Western Company's overhead expenses properly assignable to manufacturing the cable.
- (b) Other manufactures of the Western Company at reasonable prices as low as its prices to its most favored customers in the United States.
- 2. Purchases of articles not manufactured by the Western Company. The Company has constituted the Western Company its purchasing agent to procure for it articles which the Western Company does not manufacture, such, for example, as paper for telephone directories, stationery, office furniture and fixtures, etc., at cost plus 6% if shipped from any storeroom of the Western Company, or cost plus 4% if shipped from any other point. In the case of hard drawn copper wire, the price is cost plus 5% if shipped from storeroom, cost plus 1% if shipped direct. In ascertaining "cost" herein, the Company is given the benefit of all rebates, discounts and commissions.
- 3. Services. The contract provides for certain services to be performed by the Western Company such as warehousing, inspection, carrying special stocks, operating local repair and emergency shops, cartage, handling shipments and shipping claims with railroads, receiving, storing and reissuing or

disposing of apparatus or material returned by the Company, etc.—services which the Western Company is equipped to perform with the greatest efficiency, economy and dispatch.

Only such services are performed for the Company as it may request and at such remuneration

as the parties may agree upon.

The rates of remuneration for these services as agreed upon from time to time are shown in the record, pages 834-870. The following items are typical:

- (4) Repair and emergency shops. So far as possible standard repairs will be charged at agreed on flat prices, representing the Western Company's cost (R. II, 839).
- (b) Recovery shop. The Western Company will charge the Company monthly its actual cost of labor, plus 15% loading to cover department expenses and supervision expense, and material at prices usually charged the Company (R. II, 839).
- (c) Handling shipping and shipping claims. The Western Company will make a monthly charge of \$80.00, representing approximately its cost of doing the work and interest for a period of forty-five days on the total amount of money advanced each month (R. II, 841-2).
- (d) Cartage. Actual cost of truck hire plus 6% to cover the cost of supervision of trucks and necessary clerical work (R. II, 842).
- (e) Inspections. Prices represent actual cost to the Western Company (R. II, 844-5).
- (f) Poles. Other than chestnut poles, which are ordinarily bought from dealers, cost plus 4% for inspection; cost being the net price that the Western Company pays the suppliers (R. II, 869).

It must not be understood that the Wester... Company's business is confined to the Bell system. It sells its telephone products in large volume to the general telephone trade, that is, to the independent (non-Bell) companies throughout the country.

In addition to the foregoing lines of business, the Western Company deals on a large scale in electrical goods of other manufacturers, not required or useful in the telephone business, such as electric fans, washing machines, electric ranges and the like (R. II, 662, 705).

In the year 1919 the Western Company's sales aggregated \$135,000,000, of which \$70,000,000 represented sales to the Associated Bell Companies, and \$65,000,000 sales to independent telephone companies, and to companies and concerns other than telephone companies (R. II, 704-5). These figures are for the domestic business alone.

The question presented upon these facts.

The proposition of law presented by the City upon this state of facts is that, solely because of the American Company's stock ownership, the separate corporate identities of the Western Company and of the Southwestern Company must be disregarded, so that any profit the Western Company makes in its Houston business (if it could be ascertained) must be treated not as its own, but as that of the Southwestern Company, plaintiff.

This is the same proposition advanced by the City in connection with the license contract payment to the American Company, argued in the fourth section hereof, *supra*, page 38. We desire to add here only two comments.

We concede here, as we did there, that it is proper, and may be obligatory under the law, for the court to scrutinize closely any dealings between these corporations whereby any unjust advantage might be taken by the stockholding company. The trial court applied that rule to these transactions and found them to be fair and advantageous to this Company (R. I, 57).

While the American Company owns the greater part of the stock of the Western Company, there are minority stockholders. What is the Western Company's obligation under the law to those minor-

ity stockholders?

It is the contention of the City that the American Company, which is in a position to assert a control over both the Southwestern Company and the Western Company, should compel the latter to sell its manufactured products to the former at cost in disregard of the rights and interests of the minority stockholders in the Western Company. It is unnecessary to inquire how such a course would appeal to these minority stockholders. If they were to come into a court of equity and assert that, abusing its control, the American Company was doing this, is there any question as to what the attitude of the court would be?

The Question of Fact.

The Proof is Overwhelming that the Prices Charged this Company by the Western Company are Fair.

The City claims that it has shown that the Western Company's prices to this Company are excessive and that the trial court erred in overruling its exception to the Master's finding to the contrary. The proof decisively refutes this claim. We address ourselves to that phase of the controversy. We shall set out first the Company's proof and then the City's.

Company's Proof on Western Company Prices.

The City refers in its brief, on page 42, to what it calls the "only effort" of the American Company, which it regards as the real plaintiff, to make a disclosure of the profits it realizes from these sales by the Western Company to this Company, and refers in that connection to the testimony of Mr. E. V. Cox that such profit was less than 8 per cent. The City's brief further characterizes this testimony as having been "volunteered on cross-examination" and complains that the witness did not furnish the expense bills of the Western Company to support this testimony.

This characterization of this testimony is inaccurate and misleading in several respects. In the first place, there was no "effort" made by this Company to prove in this case the amount, or the per cent., of the profits of the Western Company. The Company maintained that the fairness of the dealings between the two companies was to be determined by the results to this Company, and not by results to the Western Company, and that so long as the prices were fair and reasonable and the dealings advantageous and beneficial to this Company, it need not concern itself with the results to the Western Company, and was not called upon to make such proof in order to establish its case. In the second place, the evidence brought out by the City on cross-examination was responsive, was testified to by a witness who knew the facts of his own knowledge, and was competent evidence

in all respects except perhaps as against the best evidence rule, which the City, by the course of the cross-examination, waived. Lastly, the testimony was given by a witness called by this Company. The American Company had nothing to do with it, although the witness was in the employ of the American Company. We shall refer to this matter again in connection with our discussion of the testimony of Mr. Cox.

George P. Player, telephone valuation engineer, St. Louis, Missouri.

He started in the telephone business in 1898 and was for ten years in the employ of independent telephone companies operating in opposition to Bell Companies.

About 1908 he became Telephone Engineer to the Corporation Commission of the State of Oklahoma. He remained with the Oklahoma Commission five and one half years. In that position he made extensive field inventories, appraisals and valuations of telephone properties throughout the State.

In March, 1914, he became Telephone and Telegraph Engineer to the Public Service Commission of the State of Missouri. He made an appraisal for the city of the Bell Company's \$9,000,000 property in St. Louis. He made an appraisal of a \$1,000,000 telephone property at Springfield, Missouri, and of many other telephone properties ranging in size from \$50,000 to \$500,000. In 1916 the Missouri Commission made him Chief of the Telephone and Telegraph Department of the Commission, having direct supervision of rates, rules and regulations of the various telephone and telegraph companies under its jurisdiction. After the war, in which he served with the rank of Captain, he went into business for himself.

He is not an employee of any Bell Telephone Company. He was engaged by the plaintiff to value the Houston property and testify in this case (R.

II. 559-64, III, 1428).

Mr. Player appraised the central office equipment (much the largest item of which is switchboards) at Houston. He used average prices for the past five years and, checking the Company's prices over that period, found them to be conservative. He said:

"When I got those prices I made a check of them. I did this; I checked them in comparison with other appraisals that I had made of the same class of equipment, and found them to be conservative and correct and so I adopted them. This same procedure has been accepted by both the Oklahoma and Missouri Commissions and by the courts after that, in the cases of those commissions" (R. III, 1458-59).

Further testifying concerning Western Company prices generally, this witness said:

"In connection with the various rate cases that go before these Commissions, I have had and the Commissions in some of the cases in which I participated had occasion to investigate the prices of the Western Electric Company with reference to whether or not they were high or low, or how they compared with the other companies; we had done that, in fact, I personally have gone through the Western Electric plant at Hawthorne, Ill. I have also gone through the Automatic Electric Company in Chicago, and the Stromberg-Carlson Manufacturing plant there and I can say frankly that the prices of the Western Electric Company are no greater than they are of these other companies for the same class and character of equipment. As a matter of fact, the prices are a little bit lower, due to economical reasons more than anything else. Their facilities are so great of supplying the demand, they can turn the apparatus out more readily, thereby causing the Company that wishes to buy it to be served long before they can secure a similar type of equipment from some of the other companies or manufacturers. Not that the prices are any lower, but in the interim that they would have to wait for this equipment they are receiving revenue from apparatus installed where they would still be waiting for it from the smaller manufacturers" (R. III, 1461).

His testimony completely refutes the City's charge that the Western Company exacts excessive and exorbitant prices for its products.

James E. Allison, St. Louis, Missouri. Valuation engineer of the firm of James E. Allison and Com-

pany since 1914.

In 1909 Mr. Allison was appointed Commissioner and Chief Engineer of the St. Louis Public Service Commission, a commission created to make detailed valuations and recommend rates and regulations for all public utilities in the City of St. Louis. During four years in that position he had charge, as Chief Engineer for the city, of the valuation of public utility property aggregating \$107,000,000 in value. He resigned in 1914.

The witness has valued upon detailed appraisal \$45,000,000 worth of telephone properties, Bell and independent, besides his work as Commissioner in St. Louis.

On the public side of valuation and rate cases he has been employed as expert by the City of San Antonio, Texas, in litigation against the plaintiff company in 1918; by the City of New Orleans in connection with street railway property; by the City of St. Louis in its street railroad case before the Public Service Commission of Missouri, 1918.

As a witness for the utility he represented his firm in 1914 in the valuation of the electric light property in Houston.

He was employed by the plaintiff to appraise the exchange property in Houston, to do it in his own way, and be prepared to testify in this case (R. III, 1551-53, 1554). This is Mr. Allison's first employment by any Bell System Company (R. III, 1592).

Mr. Allison testified:

"In my valuation work I have occasion to be familiar with the prices for a number of years back. I am familiar with the prices which in a general way existed prior to the beginning of this World War which we have just gone through; we have eleven years' records in our office of prices and we have practically a complete record of vouchers and bills of all these companies, and they are all indexed, and copies of their contracts, and it forms a rule for records, and they have there all the prices practically of the material that enters into the make-up of public utilities since 1909" (R. p. 1554, f. 3042).

Referring specifically to Western Company prices he testified:

"I have been in this business for a good while and have investigated the prices of material a good many times, and I have had occasion to draw comparison between the prices of the Western Electric Company and the prices of other suppliers on telephone materials; we have made valuations of Independent Companies considerably, and we once had a study made in our office to see, as a matter of curiosity and information to ourselves, we didn't know we were going to use it, we found

that the Bell Telephone Company buy a little cheaper on the whole than the Independent Companies, that is, for the comparative items. That was made some years ago and I remember the results very clearly * * *" (R. III, 1557).

His testimony above quoted, that Bell Companies buy a little cheaper on the whole than independent companies, for comparative items, is supported by other like testimony to which we shall refer.

Counsel for the City volunteered to say that he did not question Mr. Allison's honesty or his integrity (R. III, 1581). We may add that he displayed a thorough knowledge of the matters to which he testified, and complete independence of judgment.

Benjamin T. McBurney, Vice-President and Assistant General Manager of the Cincinnati and Suburban Bell Telephone Company, Cincinnati, Ohio.

The Cincinnati and Suburban Bell Telephone Company is one of the two non-controlled "Associated Companies" of the Bell System. It has a capital stock of slightly more than \$10,000,000 par value with no bonds. The American Company owns approximately 30% of its stock, which it acquired about the year 1880 when the "License Contract" was entered into between the two companies. In 1913 the Cincinnati Company entered into the supply contract with the Western Company and has found it to be a very profitable contract.

Mr. McBurney testified as follows:

"Q. Do you feel that that (the Western Company contract) is advantageous to you?

A. We entered into that contract on September 1st, 1913, and I am rather familiar with it because, at that time, I had charge of the direc-

tion of the contracts, so to speak, and the result of that was, in the first year we cut supply expenses, which is the cost of warehousing and handling supplies, exactly in half; as I recall it, we figured that we saved at the end of the first year, under the operation of the supply contract on account of reduction in material costs to us, in the neighborhood of \$35,000.00, and also reduction in prices of material bought from the Western Electric Company, because we got it under more favorable prices under the supply contract than theretofore.

Q. That benefit has continued from year to

vear?

A. Yes, sir.

Q. So you figure on past experience that about \$35,000.00 is saved in that respect alone?

A. Yes, sir.

Q. Have you ever had the idea that the Western Electric contract was a contract that was put over on you by the American Company in order to make additional dividends?

A. No sir, we entered into the contract abso-

lutely on our own volition.

Q. Are you free to get (out of) it any time

you want to?

A. We are free to get (out of) it any time we want to, but as a matter of fact, we sometimes make our purchases outside if we feel we get better prices" (R. I, 395-96).

Frederick Leland Rhodes, telephone engineer, American Telephone and Telegraph Company, New York City. He testified chiefly concerning the license contract. On cross-examination however, being interrogated upon the matter we are now considering, he testified as follows:

"Q. You don't know what amount of profit it (the Western Company) has made in the last few years on the equipment sold to the Houston exchange here?

A. No sir, I do know this that the Western Electric Company sells a very considerable amount of telephone apparatus in competition with other manufacturers in the open market, and I understand that the associated companies never pay more than that market price and generally pay less, for the same apparatus" R. I, 283).

F. M. Hoag, Plant Supervisor of the Company, for the State of Texas, testified on cross-examination:

"A. No, sir, but I do know that the working arrangement which the Bell Telephone Company has with the Western Electric Company makes for great economy and makes for great efficiency in the general handling of our business" (R. II, 710).

C. A. Gates, Vice President of the Company, Dallas, Texas, testified on cross-examination:

"Q. You are Vice President of this Company and its General Manager,—what relationship is there between this company and the Western Electric Company?

A. Why, we have a working arrangement with them whereby we buy our material from them under certain conditions, at a certain price, which is materially less than we could buy it in general market.

Q. You have a contract whereby you buy all of your material from them that they can furnish?

A. Not necessarily all of it, we are not con-

fined to their market" (R. II, 711).

E. V. Cox, Supply Contract Auditor, New York City.

His testimony is printed in the Record, Vol. II, at pages 660-709, and the exhibits introduced during his testimony, numbers 141 to 145, inclusive, appear in Vol. II, at pages 827 to 876.

He testified that it was his duty to watch the workings under the contract in every particular. and to be certain that the Associated Companies receive the full benefits of the contract, that the prices are such as should be billed, and that the service is the best that can be given (R. II, 671).

Mr. Cox was peculiarly qualified, therefore, to testify as to costs and prices charged by the Western Company. His testimony shows that, both from the manufacturing and the supply standpoint, the contract relationship results in lower costs and

large economies to this Company.

He shows first that the prices charged the Associated Companies, of which the Company is one, by the Western Company are uniform in the sense that they are the same to all (R. II, 676-677; Plaintiff's Exhibit 145, R. II, 875).

He then shows that the prices made to all the Associated Companies are lower than the prices charged other companies, not a part of the Bell System, to whom the Western Company sells in competition with other manufacturers of telephone

equipment.

In 1914 the prices to the Company for telephone material and supplies covering all parts of the telephone plant were lower by 21 per cent., and in 1919 by 38 per cent., than the prices charged independent companies for the same material and supplies (R. II, 673-4; Plaintiff's Exhibit 143, R. II, 870).

The record shows that the Western Company sells its manufactured products (with the exception of a few articles under certain patents owned or controlled by the American Company which it has not released for use outside of the Bell System), to the general telephone trade, that is, outside the Bell system, to anyone who may care to buy. In 1914 such sales to the independent companies amounted to \$2,300,000; in 1918, to \$3,300,000.

These sales at higher prices were made in a competitive market. There are three principal independent manufacturers of telephone equipment of all kinds, the Kellogg Manufacturing and Supply Company, Stromberg-Carlson Company, and the Dean Company (R. II, 682), in active competition with the Western Company for the independent The fact that the Western Company sold its products to the amount stated in open competition with these companies establishes the fairness of even these higher prices of the Western Company's products (R. II, 674; Plaintiff's Exhibit 143, R. II, 871). Notwithstanding the price differential against them, the independent companies increased their purchases by about 43% between 1914 and 1918, showing thereby that the Western Company's prices met the test of competition.

The rise in costs due to the world war compelled the Western Company to increase its prices. It is extremely significant that under these conditions its prices to the Associated Companies increased only 52% as against an increase in its prices upon the same things to independent companies of 82%, and as against an average increase of 121% by other manufacturers of telephone apparatus (R. II, 673; Plaintiff's Exhibit 143, R. II, 870).

As further proving the advantage in prices made the Associated Companies, a study of the books and records was made to ascertain the costs of telephone apparatus to a company, the Utica Home Telephone Company, when it was an independent (non-Bell) company as compared with what the comparable articles of the Western Company's make would have cost (R. II, 674; Plaintiff's Exhibit 144, R. II, 871-4; 674-76). The Utica Com-

pany was established by the Stromberg-Carlson Telephone Manufacturing Company and was largely equipped with articles of its manufacture. Its books and records covered a period of eight years. The study showed that the cost of central office and substation equipment to the independent company, when purchased from companies other than the Western Company, was 18.69 per cent. higher than the cost of such equipment had it been purchased from the Western Company; and specifically as to lead cable that the cost to the said company when purchased from other manufacturing companies was 8.08 per cent. higher than if purchased from the Western Company.

By virtue of the contract (see Section 4, R. II, 829) this Company is also enabled to return to the Western Company old apparatus for renewal, or when a piece of apparatus has outgrown a particular situation, to have it disposed of to the best advantage by the Western Company, which has a wide market and established connections, an arrangement which this Company could not otherwise obtain (R. II, 664, 665). Through the control of the manufacturing design and the manufacturing process, it is possible for the Western Company to find a use for the renewed and outgrown equipment, and the savings to the Company through this service are large (R. II, 665).

On its manufacturing business the return to the Western Company is less than 8 per cent. of its investment. This was the testimony of Mr. Cox. It was not an unsupported general statement, as stated in the City's brief, but was ascertained by a careful study and computation made by the witness Cox of the Western Company's costs and prices and of the capital it has invested (R. II, 694).

The record does not justify counsel's criticism

of this witness. This testimony was brought out on cross-examination by counsel for the City. City attorney was cross-examining Mr. Cox as to the amount of profit made by the Western Company on switchboards. At page 683, Vol. II of the Record, the City attorney asked Mr. Cox if he was able to testify as to the profit on that item, and the witness replied that he had recently completed a study, so that he could give the total profit of the Western Company but could not give it as to switchboards separately. Counsel for the City then stated that he would like to know what the profits were and to see the expense bills "both in 1914 and 1919, on the switchboard and on the different items manufactured", also on the transmitters and receivers, and inquired of the witness whether or not he. had such expense bills. The witness answered that he did not have them (R. II, 683-4).

The cross-examiner thereupon dropped that line of inquiry. The witness had explicitly stated that, while he knew and could give the total profit of the Western Company, he did not have, and therefore could not exhibit, the expense bills.

But later in the cross-examination, at page 693, the City attorney returned to the subject and, asserting that the Company had it within its power to demand excessive prices, further cross-examined as follows:

[&]quot;Q. Now, you say you are here to tell us that you have not abused the power you have in that regard?

A. Yes.

Q. Well, can you tell us now, just in a general way, or can you give us the figures such as I referred to a while ago, the expense bills of the manufactured products?"

The witness answered that the profit was less than 8 per cent. upon the investment.

The cross-examination continued as to how the witness had ascertained that fact, and he explained the matter at length in answer to many questions. He explained how the books of the Western Company were kept, how he got at the facts. He had devoted ten days to the investigation at the Company's offices at Hawthorne with a force of forty men to assist him and with two men working with him for some weeks thereafter on the matter, and had found the fact to be as stated (R. II, 693-95). No objection to the testimony was made, no motion was made to exclude or strike it out, and no exception was taken to its retention in the record. The matter was not brought to the attention of the trial court. The attempt to avoid the force of it now, on the sole ground that it was not the best evidence, comes too late.

With respect to that phase of the contract by which the Western Company acts as purchasing agent for the Associated Companies, buying, keeping in readiness and shipping to the Associated Companies supplies when needed, the testimony shows that this is of great advantage to this Company and saves it large sums (R. II, 666). It results in an enormous concentration of buying The requirements of all of the Associated Companies of the Bell System are in a sense pooled. as all have entered into the same kind of a contract with the Western Company. They are not in the same market bidding against each other. The result is that instead of having to buy through jobbers, as the Company would be required to do were it buying only for itself, the Western Company goes for it directly to the source of the supply, the manufacturer, and deals with him on the basis of a large and preferred customer. This does not mean a benefit only in price. That is substantial. But it means also a benefit in service as a whole, which may be even more important (R. II, 666). It saves the cost of maintaining a large purchasing department, heavy travelling expenses, warehousing charges, inspectors, etc.

The contract with the Western Company is also of great advantage to the Company in enabling it to take care of emergency situations, such as the great storm in Houston in 1915 (R. II, 668). The Western Company maintains branch storehouses at strategic points in each company's territory. It has storehouses in Houston (R. II, 665, 666). These storehouses contain the various items of telephone equipment and supplies in sufficient quantities to meet almost any emergency, and back of these storehouses is the centralized warehouse in Hawthorne, Illinois, where great stores of material and supplies are kept (R. II, 668). Were it not for this service on the part of the Western Company this Company would be required to carry a much greater amount of merchandise and material than it now carries, and would incur the added expense incident thereto (R. II, 669, 677).

The savings to the Company as the result of constituting the Western Company its purchasing agent run all the way from 2 per cent. to 12 per cent. on the various items (R. II, 677, 678), while the profit to the Western Company from acting as purchasing agent is less than three-tenths of one per cent (R. II, 695).

The third class of transactions—certain services which the Company engages the Western Company to perform for it, which the Western Company's extensive organization and business connections covering the whole country enable it to perform with the greatest efficiency, economy and dispatch—can be dismissed with a few words. These transactions do not seem to be attacked in the City's brief. It is apparent upon the face of the exhibits, already referred to, that the Western Company performs these services practically at cost and that this Company and the public are the largest beneficiaries of this phase of the contract.

City's Testimony on Western Company Prices.

As against all the foregoing testimony offered by the Company showing that the Western Company's prices are fair and reasonable, the City cites in its brief and relies upon certain testimony given by its witnesses Kelsey and Lyndon concerning the Western Company's prices upon two classes of its manufactured products, viz., telephone instruments—that is, transmitters, receivers and induction coils—and switchboards. We shall now analyze this testimony.

Instruments—transmitters, receivers and induction coils.

The City cites the testimony of its witness Kelsey upon the prices of the independent manufacturers, who compete with the Western Company, for what he considers instruments of equal merit (City's brief, p. 45).

The comparable prices as stated in the City's brief are, Western Electric Company, \$5.50, Independent \$2.50; but the price placed upon a set of these instruments by the Company's witness Rhodes is \$4.50, not \$5.50 (R. I, 278). Moreover, Mr. Kelsey was testifying not as to the actual price made by any independent manufacturer, but merely to his opinion of what a proper manufacturer's

price should be (see his testimony quoted in City's brief, p. 45). His opinion is not shown to be based upon anything tangible in the way of actual knowledge of the subject.

But if the foregoing testimony of Mr. Kelsey could be said to have any real weight as evidence, it is entirely destroyed by his testimony elsewhere, so that the Master and the trial court could not reasonably have been expected to accept it.

Mr. Kelsey testified that, at and prior to the time of the trial, he was engaged in the business of buying these Western Company instruments after they had been discarded by the Bell Companies as no longer serviceable. He would then work them over and resell them to the general trade. He had sold as many as 125,000 instruments a year (R. II, 1068-9). He testified:

"A. Oh, no; we find that we can make more money by buying telephones that you folks throw away."

It will be recalled that the American Company owns these instruments, and supplies them to the Associated Companies, maintains them and keeps them in repair, as a part of the service it renders under the License Contract. It is fair to assume that it does not discard the instruments until they are so far gone that they are no longer capable of rendering telephone service up to the Bell standards.

For these discarded instruments Mr. Kelsey, even in 1914, before the era of war prices, found a ready market at \$2.60 an instrument. He testified:

"Q. What would a receiver and induction coil that has been worked over by you sell for?

A. Two dollars and fifty cents.

Q. That is just the induction coil, transmitter and receiver?

A. The rebuilt cost,—yes; the sale cost of 1914.

Q. That is for all three of them?

A. Yes, sir" (R. II, 1069).

He testified further, on the same page:

"A. We don't sell them brand new. We sell all transmitters for one dollar, all receivers for one dollar, all coils for sixty cents."

Yet, in the face of this testimony of its own witness, that discarded and worked over Bell instruments found a ready market at \$2.60, in 1914, before war prices supervened, and in reliance upon it, the City asserts that the Western Company should sell its brand new instruments to the company for \$2.50!

Moreover, Mr. Kelsey testified that the Kellogg Company, which is the Western Company's principal manufacturing competitor, sold its sets for \$4.60, or 10 cents more than the Western Company's price. He said:

"I think Kellogg got their price up to \$1.95 for transmitters, \$1.95 for the receiver and sixty cents for the induction coils, which would be \$4.60 per set" (R. II, 1070).

As a matter of fact, this testimony has nothing whatever to do with this branch of the case. This Company does not buy telephone instruments, either from the Western Company or any other. They are furnished, maintained, replaced and new types substituted as they are developed, for the use of this Company as a part of the service rendered by the American Company under the License Contract. We might have dismissed this part of the City's argument by pointing out that fact. But we desired to show that, if it has any relevancy here, it not only failed to support the City's claim of exces-

sive prices, but proved—or tended very strongly to prove—that the Western Company's prices were reasonable.

2. Switchboards. The only other testimony adduced by the City in support of its claim that the Western Company's prices are excessive is that concerning switchboards.

The City's claim, as stated in its brief, is that independent manufacturers "could furnish this equipment for \$600,000, or more than \$400,000 less than the figures of the Western Company included in the inventory" (City's brief, p. 46).

In the first place, this statement in the City's brief misrepresents the testimony of its own witness and greatly overstates the claim. The testimony of Mr. Kelsey is as follows:

- "A. It says Capitol unit here, ten sections of eight panel, three position subscribers switchboard, equipped with 8,800 subscribers multiple per section and 4,540 answering jacks; that doesn't appear in the summary at all. That's on page 69. We have Preston, then Preston again. It must mean that is Capitol,—That's a misprint. On page 69 you see you refer there—it seems the Capitol unit is included in the Preston exchange. It is included in with the Preston. That's pretty near a five-thousand line board, and that would make about \$600,000.00 for that office as against \$752,000.00.
- Q. Now, when you speak of these things, I understand that you are speaking of the manufacturing cost, plus the manufacturer's profit?
 - A. Yes.
- Q. And what an independent company would be glad to do the work for?
 - A. The same price, yes, sir" (R. II, 719).

So that, upon this testimony of the City's witness, the comparable figures are \$600,000 as against \$752,000, not as against \$1,027,000.

Following this there is further testimony of Mr. Kelsey, on page 720, concerning certain loading percentages to be applied to this and other property, such as for contingencies and omissions, engineering expenses, general expenses, etc. These have nothing to do with the question of Western Company prices. Kelsey leaves absolutely no room for misunderstanding what he deems the comparable figures to be, for on page 720, after his attention has been called to the other items just referred to, he again testifies:

"Q. As I understand you, then, in this comparison which you have just made, where you say the Preston, which includes the Capitol, would amount to around \$600,000.00?

A. Yes.

Q. By that you mean, that by an independent company it would reasonably cost to manufacture, plus the manufacturer's profit, \$600,000.00 as compared to \$752,000.00?

A. Yes."

The statement of the City's claim should be corrected accordingly.

Large switchboards such as these are made up of a multitude of separate parts-various types of jacks, plugs, kevs, relays, cords, cable, wires, frame, All these items are priced separately by the manufacturers and the current prices determine the price of the completed switchboard. See the crossexamination of Mr. Kelsey (R. II, 1093-96). From this cross-examination it appears that he must have based his idea of the independent manufacturer's price of \$600,000 upon Kellogg prices that were several years out of date, that he had no knowledge of current prices, and that the old prices he carried in his mind (assuming that he did actually know what they were) were far below current Kellogg prices. This renders his testimony valueless.

Moreover, Kelsey's testimony is directly at variance with that of the City's other witness, Lyndon. In 1914 the City of Houston employed Mr. Lyndon to value the Company's property in Houston for purposes of rate regulation by the City. At that time, in order to check up the Company's figures on central office equipment, Mr. Lyndon asked for and obtained prices from the Kellogg company. The two were so close together that the difference was negligible, and he used the Western Company prices to ascertain a valuation for the City.

In his report of that year to the City, beginning on page 1066 at the bottom, Mr. Lyndon says:

"Quotations were obtained from the Kellogg Switch Board and Supply Company, and this Company accorded us every courtesy in making up quotations for us. To make an estimate of this character of equipment delivered and installed, together with all the cable, wire and accessories, is a long and tedious process, and we could not expect any manufacturer to make such a close estimate for general estimate purposes as it would if there were a prospect of a contract for the material. The Kellogg Company's quotations, when loaded with overhead charges, came so near to the figures given by the Southwestern Telegraph and Telephone Company, that we have considered it better to accept the Southwestern Company's costs" (Italics ours. R. II, 1066-67).

The trial court found, with the Master, that the Western Company furnishes materials and supplies to this Company "at prices on the whole less than the same character of supplies could be procured from any other source", and that this Company was "charged fair and reasonable prices for services and materials".

Such testimony as that relied upon by the City is

wholly incapable of overturning these findings. The overwhelming proof sustains the findings.

The Contract is not an Exclusive Contract. It Does
Not Bind the Company to Purchase from
the Western Company.

Section one of the contract (R. II, 681) provides expressly that "nothing herein contained shall be construed as requiring the Telephone Company to purchase or use any article or articles manufactured or sold by the Western Electric Company, unless it shall desire to do so".

The contract never was an exclusive contract, and is not now. That is, it creates no obligation on the Company to buy any of its material and supplies from the Western Company. The Company is at liberty to buy from any other company or individual (R. II, 679, 681). Such patronage as the Company and the other Associated Companies give the Western Company is given in their own interest (R. II, 681).

The Prices Paid to the Western Company Have No Bearing on Any Issue Raised by the City.

The materials and supplies purchased by this Company and placed in the property become a part of its capital, its investment, except materials and supplies used in operating the property and charged to operating expenses, the amount of which is negligible in this case. Therefore, the prices paid the Western Company enter into the cost of the Company's property, and the amount of this cost is not in dispute except as to the item of \$754,000, part of the purchase price paid for The Houston Home Company's property upon consolidation. This item bears no relation to the question here. Therefore, the Western Company's prices are immaterial upon any issue raised by the City.

The Clayton Act.

In conclusion upon this assignment of error, the City asserts that these transactions constitute a criminal offense under Section 10 of the Clayton Act; or rather, that they would be criminal but for the fact that the effective date of that section has been postponed.

This point was not made in the district court and there is no assignment of error which in any way covers it.

But counsel are in error. Section 10 of the Clayton Act applies only to common carriers, and only "when said common carrier shall have upon its board of directors or as its president, manager, or as its purchasing or selling officer, or agent in the particular transaction, any person who is at the same time a director, manager, or purchasing or selling officer of, or who has any substantial interest in, such other corporation, firm, partnership or association * * *."

Even if the point were open to the City on the record there would be no merit in it because:

- 1. The Company is not a common carrier. Telegraph and telephone companies are not common carriers. Primrose v. Western Union Telegraph Company, 154 U. S. 1 (see also Propeller Niagara v. Cordes, 21 How. 7, 22; Hutchinson on Carriers, Section 47; Moore on Carriers, p. 18).
- 2. There is no interlocking between the two companies.
- 3. If the Clayton Act were being violated by these transactions the penalty would be that prescribed in the Act. The offending company would not be wholly outside the pale of the law so that its property could be confiscated with impunity by the City,

by the imposition of rates that have that result. The Company would still be safeguarded in its rights of property by the guaranties of the constitution. Citation of authorities is unnecessary.

VIII.

Confiscation.

(The City's Ninth Assignment of Error.)

Error is assigned upon the conclusion of the district court that the rates complained of are confiscatory, and upon the decree enjoining their enforcement.

We have shown that this assignment is without merit.

We do not wish to let pass the suggestion of counsel (City's brief, p. 56) that the peak of high prices resulting from the World War passed in the year 1919, and that prices have declined since 1919 so that they no longer furnish any criterion for determining the questions in this case. Counsel assert that this court will take judicial ratice that this is so, but we respectfully suggest that the case will be decided upon the record. The record shows that prices at the time of the trial in 1920, both for labor and materials, were very greatly in excess of those for the year 1919—the year as of which the property was valued and the case tried. Costs of labor and materials in the telephone business have not decreased on the whole since the trial.

We respectfully submit that the appeal of the City is without merit and that the decree of the district court should be affirmed.

PART II.

Upon the appeal of the Southwestern Bell Telephone Company, plaintiff (Case No. 220).

Statement.

The court is referred to the statement set forth in the opening section of this brief.

After the City had appealed, the Company filed a cross appeal in which it assigned error, (1) upon the action of the trial court in sustaining certain of the City's exceptions to the report of the Master and (2) upon the provision of the decree which enjoins the City from interfering with the Company "in charging and collecting such rates as will not produce more than a fair return upon its capital actually invested", whereas the Company claims that the basis of the injunction should have been the fair value of its property used or useful in rendering the service.

It is essential that the Company call attention to the assignment last stated, and its other assignments of provide dependent on it, to avoid the assertion, in any controversy that may hereafter arise, that the decree in the instant case as an adjudication binds the Company to an acceptance of investment instead of value for all time.

The matters involved in the Company's assignments of error are (1) the valuation of the property, (2) going concern value, (3) the amount of working capital, and (4) the amount of the annual depreciation.

The Company's Propositions.

The Company maintains the following proposi-

I.

The Company's property is confiscated by the imposition of rates which prevent it from earning a fair return upon the fair value of the property used or useful in rendering the service. The provision of the merger ordinance, upon which the trial court relied in substituting the cost of the physical plant for this fair value, is void (Fourth, Fifth and Sixth Assignments of Error).

II.

The element of going concern value which exists in the property was improperly excluded (First Assignment of Error).

III.

Materials and supplies used or useful in rendering service are working capital and a part of the property upon which the fair return must be computed, and were improperly excluded (Second Assignment of Error).

IV.

The annual amount for depreciation should have been computed upon the value of the property instead of upon the cost of the physical plant (Third Assignment of Error).

Assignments of Error.

(Record, Vol. II, pp. 782-86.)

1.

That the United States District Court for the Southern District of Texas Houston Division, erred in failing to overrule in said decree Defendants' fourth exception to the report of the Special Master and in sustaining Defendants' fourth exception to said report in setting aside the finding by the Special Master, that there should be included in the valuation of Complainant's property the sum of \$765,000.00 for that element of value over and above the value of Complainant's physical property, existing by reason of the fact that Complainant has an assembled and established telephone plant in the City of Houston, doing business and earning money, such value being referred to as going concern value, and in holding that the Complainant's agreement in accepting the merger ordinance of 1915 that the sum on which it should receive a fair return should be the capital actually invested, estopped Complainant from claiming any return upon such element of value, because said contract and agreement is in violation of, and prohibited by Article I, Section 17, of the Constitution of the State of Texas, prohibiting the granting of any irrevocable, or uncontrollable grant, franchise, privilege or immunity, and for the further reason that the court took as the capital actually invested the cost of the property as shown by Complainant's books and, as shown by the evidence, said books, in compliance with the Uniform System of Accounts prescribed by the Interstate Commerce Commission, showed only the original cost of the

physical property, and the order and finding of the court in eliminating the item of going concern value fails to permit Complainant to earn any return whatsoever upon said element of value, and is contrary to and not supported by the law or the evidence.

2

That the United States District Court for the Southern District of Texas, Houston Division, erred in not overruling in said decree Defendants' fifth exception to the report of the Special Master, and erred in sustaining Defendants' fifth exception to the report of the Special Master, and in setting aside the finding of the Special Master that the proper allowance for working capital to be included in the valuation of Complainant's property is \$238,000.00, and in substituting therefor the sum of \$120,000,00. or a reduction of \$118,000.00, because, as shown by the evidence, there was included in the amount allowed by the Special Master the value of certain telephone supplies and materials that are, and must be kept on hand by Complainant to take care of repairs and contingencies, and the court's finding is based on Complainant's average monthly operating expenditures, which do not include the value of such supplies and materials, and the value of same are not included elsewhere in the report of the Special Master. And said order and decree is contrary to the law and the evidence.

3

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Eighth exception to the report of the Special Master and erred in sustaining Defendants' Eighth

exception to the report of the Special Master in setting aside the finding of the Special Master that Complainant was entitled to set aside out of its revenue a sum equal to 6.33 per cent. of \$5,500,-000.00, the reproduction cost new of Complainant's physical property, as a reserve for depreciation, or \$348,150.00 for the year 1919, and substituting therefor the sum of \$289,380.00, the same being 6.33 per cent. of \$4,571,567.00, the actual cost of the property, or a reduction in the amount to be set aside as a reserve for depreciation of \$58,770.00, because the court used the original cost of the physical property as the basis for the reserve for depreciation, whereas the proper basis upon which the reserve for depreciation should be computed is the reproduction cost new of the physical property, and the finding of the court is contrary to, and not supported by the evidence.

4.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Tenth exception to the report of the Special Master, and in sustaining Defendants' Tenth exception to said report in setting aside the finding of the Special Master that anything less than a return of eight per cent, upon the value of Complainant's property is confiscatory, and in holding that Complainant is only entitled to earn a fair return upon the capital actually expended by Complainant in the Houston plant, plus an allowance of \$120,-000.00 for working capital, making a total of \$4,691,567.00 upon which the Complainant would be entitled to earn a fair return, instead of upon \$6,000,000.00, the fair value of the property, because the court's application of the fair return to which Complainant is entitled, is, and should be, based on the fair value of the property, and under the finding and holding of the court Complainant is being deprived of any return whatsoever upon the difference between the original cost of its physical property, plus an allowance of \$120,000.00 for working capital, and the fair value of the property, which difference amounts to \$1,308,433.00, and Complainant, by the finding of the court and under the terms of the decree entered by the court, is being deprived of an annual return of \$104,674.64, to which it is justly entitled, and the finding and holding of the court is contrary to the law and the evidence.

5.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Eleventh exception to the report of the Special Master, and erred in sustaining Defendants' Eleventh exception to said report in setting aside the finding by the Special Master that Complainant is not estopped to claim more than a fair return upon the original cost of its property, and in holding that Complainant specifically waived the right to claim anything more than a fair return on its capital actually invested in its Houston plant, or the original cost of said property, by the terms of Subdivision "E" of Section "I" of the ordinance passed by the City of Houston in 1915, and accepted by the Southwestern Telegraph and Telephone Company, Complainant's predecessor, authorizing the consolidation of the properties of the Houston Home Telephone Company and The Southwestern Telegraph and Telephone Company in the City of Houston, and reading:

"The Southwestern Telegraph and phone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than 7 nor more than 8 per cent".

And in holding that said agreement constituted a contract binding upon the Complainant, because said contract, in so far as it attempts to fix the valuation upon which Complainant shall be entitled to earn a fair return, is contrary to, in violation of, and expressly prohibited by Article "I", Section 17, of the Constitution of the State of Texas, which provides that "no irrevocable or uncontrollable grant of special privileges or immunities shall be made; and all privileges and franchises granted by the Legislature, or created under its authority, shall be subject to the control thereof". And said contract is void and unenforceable, because the Legislature of Texas has never delegated to the City of Houston, and under the provisions of Article "I", Section 17, of the Texas Constitution aforesaid, the Legislature of Texas cannot delegate to the City of Houston the power to make said contract, because by the terms of said contract the City of Houston has attempted to and has

abandoned its police power and governmental authority and duty to regulate the rates to be charged by Complainant, to the end that Complainant shall only be permitted to earn a fair return upon the value of its property, which value at different times may be either in excess of or below the capital actually invested, and the finding and holding of the court is contrary to the law and the evidence.

6.

That the United States District Court for the Southern District of Texas, Houston Division, erred in providing in its decree of September 18, 1920, that the Defendants are restrained and enjoined from interfering with the Plaintiff in charging and collecting such rates as will not produce more than a fair return upon its capital actually invested, instead of restraining and enjoining the Defendants from interfering with Plaintiff in charging and collecting such rates as will not produce more than a fair return upon the fair value of the Plaintiff's property, because Plaintiff's capital actually invested in the Houston plant, as determined by the court, is \$1,308,433.00 less than the fair value of Plaintiff's property, and such order and decree of the court has prevented and is preventing Plaintiff from earning any return whatsoever upon the said difference, and Plaintiff is entitled to earn a fair return upon the value of all of its property being used in furnishing telephone service to its telephone subscribers in the City of Houston, and said order and decree is contrary to the law and the evidence.

ARGUMENT.

I.

The Company's property is confiscated by the imposition of rates which prevent it from earning a fair return upon the fair value of the property used or useful in rendering the service.

The provision of the merger ordinance, upon which the trial court relied in substituting the cost of the physical plant for this fair value, is void.

(Fourth, Fifth and Sixth Assignments of Error.)

The Master found that the fair value of the property was \$6,003,000 (R. I, 36) and that, to avoid confiscation, the Company was entitled to the protection of the court against the imposition of rates under which it could not earn a fair return upon that amount (R. I, 52).

The trial court, while apparently in accord with the Master as to the valuation, found the Company was bound to accept the cost of the physical plant in lieu of the fair value of the property. The court found the cost to be \$4,517,567 and substituted that amount for the Master's valuation (R. I, 36, 54).

The ordinance provision in question already appears in the statement, but for the convenience of the court we reprint it here:

"(e) The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for the service in the City of Houston, unless it appears upon a satisfactory showing to be made before the

City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charge in order that said company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date, that a fair return upon said capital and investment is not less than seven nor more than eight per cent."

This provision of the ordinance is void, being in violation of Article 1, Section 17 of the Constitution of Texas. The decisions of this court in San Antonio Traction Company v. Altgelt, 200 U. S. 304, and City of San Antonio v. San Antonio Public Service Company, 255 U. S. 547, are decisive upon this point.

There is no controversy between the parties as to the invalidity of this provision of the ordinance. In paragraph 6 of the City's answer to the second count of the Bill of Complaint the City alleges as follows:

"
that said ordinance was passed during a period of normal conditions and was intended to apply and should apply only to normal conditions, and that the City of Houston had no power by ordinance, contract or in any other manner to waive or surrender its right of police regulation over the said Southwestern Telegraph and Telephone Company, including its right to determine the rates which could be charged by the said Company" (R. I, 18).

While the City excepted to the report of the Master as to the valuation of \$6,003,000, its exceptions do not go to this point. The City does not contend that the ordinance provision is valid. Its excep-

tions to the valuation found by the Master go simply to the proposition that it is not supported by the evidence and to the proposition that the Master erred "in attaching more weight to the testimony of the value based on the reproduction theory than that based alone on the historical or cost value" (R. I, 46).

The Master held that this ordinance provision was in violation of the constitution and laws of Texas. The trial court agreed with the Master, but held that the Company was estopped to assert its invalidity (R. I, 53).

Estoppel Was Not Pleaded and Was Therefore Waived. This is the well settled rule in the federal equity courts. Instead of complying with the rule, and pleading that the Company had estopped itself to assert the invalidity of the ordinance provision and claim the right to earn upon the fair value of the property, the City has affirmatively pleaded that the ordinance provision is invalid. This ruling of the trial court was therefore unauthorized, and was error.

We shall show, moreover, that there could be no estoppel in this case.

The provision in question purports to bind the City and the Company to an agreement that, for the purpose of the regulation of rates by the City, the "capital actually invested in the Houston plant", which the court construed to mean the cost to the Company of the physical property in the plant, shall be at all times taken as the base upon which the City may not deprive the Company of the opportunity to earn a fair return. This provision, so construed, if valid, would be a plain

limitation upon the City's right to regulate rates, and a plain bargaining away of its police power in that regard, pro tanto. It might require the City to accept as this base more than value. See the City's argument on the \$754,000 item. This the Constitution of Texas does not permit.

Article 1, section 17 of the Texas constitution contains the provision that:

"
o no irrevocable or uncontrollable grant of special privileges or immunities shall be made; but all privileges and franchises granted by the legislature, or created under its authority, shall be subject to the control thereof".

This is the provision that was before this court for consideration upon the point now presented, in the cases cited, supra. Both cases presented the question of the validity, as against this section of the constitution, of the ordinance provision enacted by the City of San Antonio that "said street railway companies shall charge 5 cents fare for one continuous ride over any one of their lines, with one transfer to or from either line to the other."

In San Antonio Traction Company v. Altgelt, 200 U. S. 304, the Texas court had awarded a peremptory mandamus requiring the Traction Company to issue half fare tickets in pursuance of the City Half Fare Law adopted in 1903. This court, in denying the Traction Company's application for a writ of error to review the judgment of the Court of Civil Appeals of Texas, said, at page 308:

"Assuming, but not deciding, that the ordinance of March 16, 1899, extending the franchise of the San Antonio Street Railway, and imposing certain limitations, constituted a contract pro tanto the question still remains

whether the provision 'that said street railway companies shall charge 5 cents fare for one continuous ride over any one of their lines, with one transfer to or from either line to the other', constituted a contract with respect to which no further legislation upon that subject could be enacted without impairing its obligation. Even if construed as a contract, it was still subject to the provision of the Constitution of 1876, which, in Section 17 of the Bill of Rights, declared that no irrevocable or uncontrollable grant of special privileges or immunities should be made; but that all privileges granted by the legislature or created under its authority shall be subject to the control thereof."

At page 309 the court continued:

"It is true that in this ordinance it was provided that all rights and privileges previously granted to the street railway company and the Edison Company were conferred unto the traction company, including all the limitations, contracts, and obligations; but this ordinance must be construed in connection with the Constitution of 1876, which made all such privileges and franchises subject to the control thereof. Such was the view taken by the court of civil appeals of Texas in this case, which expressly waived the question whether the provision of the former ordinance fixing a 5 cent fare constituted a contract or not, declaring that if it did, it was subject to further legislative control."

In the case of City of San Antonio v. San Antonio Public Service Company, 255 U. S. 547, the Public Service Company in 1918 applied to the City for permission to increase its rate of fare upon the ground that, although the five cent fare was remunerative at the time it was fixed, it had become

inadequate because of increased cost of operation and could not be continued without confiscating the property of the company. The City refused to accede to a higher fare and the company brought suit in the United States District Court to enjoin it from enforcing the ordinance rate. From a decree in favor of the Public Service Company the City appealed to this court, where the decree of the district court was affirmed.

Discussing the question whether the ordinance provision constituted a valid contract as to the rate of fare which the City could enforce even though confiscatory, the late Chief Justice White, delivering the opinion of the court, said:

"Primarily the answer to that question must depend upon whether the ordinance of 1899 fixing the five-cent rate was a contract. That it was not, and could not be, we are of opinion is the necessary result of the provision of section 17, article 1, of the state Constitution, existing in 1899, prohibiting 'any irrevocable or uncontrollable grant of special privileges', etc., when considered in the light of the irrevocable and uncontrollable elements which must necessarily inhere in the ordinance of 1899 to give it the contract consequence relied upon. Indeed, this result is persuasively established by the ruling in the Altgelt Case, to the effect that, if the contract right were conceded, there would, in view of the constitutional restriction, be such an inevitable conflict between that right and the dominant power to regulate as to render the contract right inoperative, and therefore to cause it to perish from the mere fact of admitting its conflict with the authority to regulate."

In both of these cases the ordinance was contractual in terms and had been accepted by the utility companies. They are therefore on all fours with the case at bar.

A municipality cannot, merely by adopting an ordinance which is contractual in form, foreclose the exercise of its regulatory power.

Puget Sound Traction Company v. Reynolds, 244 U. S. 574, 578-9.

Pawhuska V. Pawhuska Oil Company, 250 U. S. 394.

Rates fixed in a franchise ordinance by a city without authority to make an irrevocable contract are subject to the exercise of regulatory powers conferred upon the city by the legislative enactment. In the absence of clear authority the city cannot abridge its own legislative powers.

Wyandotte Gas Company v. Kansas, 231 U. S. 622.

Southern Iowa Electric Co. v. Chariton, 255 U. S. 539.

In the case last cited the court says (at p. 546):

"The total want of power of the municipalities here in question to contract for rates, which is thus established, and the state public policy upon which the prohibition against the existence of such authority rests, absolutely exclude the existence of the right to enforce, as the result of the obligation of a contract, the concededly confiscatory rates which are involved, and therefore conclusively demonstrate the error committed below in enforcing such rates upon the theory of the existence of con-And, indeed, the necessity for this conclusion becomes doubly manifest when it is borne in mind that the right here asserted to contract in derogation of the state law and of the rule of public policy announced by the court of last resort of the State is urged by municipal corporations whose every power depends upon the state law."

In the instant case the trial court recognized the law of these decisions of this court and that they applied to the ordinance provision here in question, and that the provision is void (R. I, 53), but held that the Company, by proceeding under the ordinance, was estopped to assert the invalidity of the contract which the ordinance purported to create.

The effect of this holding was to render this provision of the ordinance a contract binding upon the company, when under the constitution of Texas it was wholly void as a contract and therefore never binding upon either the City or the Company.

The conclusive answer to the proposition and holding of the trial court is the elementary principle—a part of the doctrine of estoppel—that an estoppel is bound to be mutual. There can be no estoppel which is not mutual. The same rule which accords the benefits of the estoppel to him who invokes it, equally visits its burdens upon him. He cannot claim in favor of the estoppel and against it at the same time. He is as fully bound to the status or condition produced by the estoppel in his favor as is the party against whom the estoppel operates. An estoppel could not be binding upon the party whom it adversely affects, and yet leave the party claiming its benefits free to repudiate the consequences which the estoppel produces.

It follows that if by the force of an estoppel the ordinance became binding upon the Company as a contract, the mutual operation of the estoppel made it likewise a contract binding upon the City. Otherwise, there would be no mutuality and so no estoppel.

The municipal bond cases are in point. Recitals in the bond are ineffectual to estop the municipality from denying that the bond was issued in violation of the provisions of the constitution. The principle

upon which these cases go is applicable here. The City is not estopped to assert its lack of constitutional authority to bind itself by this ordinance provision and to assert the invalidity of the provision upon that ground. Since the City is not bound it cannot be held that the Company is bound, either contractually or by way of an estoppel.

Dixon County v. Field, 111 U. S. 83; Lake County v. Graham, 130 U. S. 674; Sutliff v. Lake County Commissioners, 147 U. S. 230.

The argument that there is an unilateral obligation in the nature of a contract binding upon the Company, or that the Company, having accepted the benefits of the consolidation, is estopped to deny the existence of such a contract, cannot be maintained.

The same objections were raised in the $San\ Antonio$ case, but were overruled, the court saying (at p. 556):

"The duty of an owner of private property used for the public service to charge only a reasonable rate and thus respect the authority of the government to regulate in the public interest, and of government to regulate by fixing such a reasonable rate as will safeguard the rights of private ownership, are interdependent and reciprocal. Where, however, the right to contract exists and the parties, the public on the one hand and the private on the other, do so contract, the law of the contract governs both the duty of the private owner and the governmental power to regulate. Where, therefore, as in the case supposed in the argument, the regulating power of government wholly uncontrolled by contract, it would follow that that power would be required to be exerted and hence the supposed condition operating upon

the private owner would be nugatory. Such a case really presents no question of a condition, since it resolves itself into a mere issue of the exercise by government of its regulatory power."

Confiscatory rates cannot be enforced except by virtue of a contractual obligation. But a necessary element of the contractual relationship is mutuality. An attempted contract which is beyond the capacity of one of the parties is void, and partial performance of an invalid contract will not create a valid obligation.

As was said by this court in Central Transportation Co. v. Pullman's Car Co., 139 U. S. 24, 59-60:

"A contract of a corporation, which is ultra vires, in the proper sense, that is to say, outside the object of its creation as defined in the law of its organization, and therefore beyond the powers conferred upon it by the legislature, is not voidable only, but wholly void, and of no legal effect. The objection to the contract is, not merely that the corporation ought not to have made it, but that it could not make it. The contract cannot be ratified by either party, because it could not have been authorized by either. No performance on either side can give the unlawful contract any validity, or be the foundation of any right of action upon it."

See also Pullman's Car Co. v. Transportation Co., 171 U. S. 138, 149 et seq.

Under these circumstances the provision in the ordinance of 1915 fixing rates pro tanto operates simply as an act of regulation, binding upon the Company only until modified by subsequent act of regulation, or until the Company refuses to be bound owing to a change of conditions that renders them confiscatory.

The power to regulate rates imports a correlative obligation. An exercise of the continuing regulatory function, as was pointed out in the San Antonio and Chariton cases, will not give rise to an unilateral obligation by way of contract or estoppel for the purpose of defeating the declared public policy of the state.

The policy of the state as to regulation by municipalities, evidenced by the statutes already quoted (p. 59), fixing 10% as the minimum return to result from such regulation, could be overturned if such a contract could be made by an estoppel or in any other way.

II.

The element of going concern value which exists in the property was improperly excluded.

(First Assignment of Error.)

The Master recognized going concern value as an element of value existing in the property of the Company, in accordance with the holding of this court in Des Moines Gas Co. v. City of Des Moines, 238 U. S. 165, and Denver v. Denver Union Water Co., 246 U. S. 178. He found that this element of value was \$765,000 and accordingly included that amount in his final valuation of \$6,003,000 (R. I, 36).

The trial court, having held that the cost of the physical property must be substituted for its fair value by reason of the provision of the merger ordinance discussed in the preceding section, ex-

cluded this element of going concern value. He said:

"In the statements previously filed with the City of the valuation of its property, it does not appear that any going concern value had been included, and it seems clear that none was contemplated in the merger ordinance" (R. I, 54).

He indicates disagreement with the Master as to the amount of going concern value, if it were to be allowed, but rejects it altogether upon the ground stated.

The amount allowed by the Master is substantially below the lowest figure testified to by any witness for the Company, and according to our judgment is a less sum than should have been found, although the Company did not except to the master's report upon this item. On the part of the City, its witness Kelsey testified that he did not recognize going concern value (R. II, 1048). And its other witness Lyndon, without attempting to compute the amount, hazarded \$75,000 as his guess as to the proper amount (R. III, 1660-1; also 100-101).

Since the trial court, for the reasons stated, made no finding as to the amount, it would serve no purpose to discuss the evidence in detail bearing upon it.

If this court sustains our first proposition and holds the merger ordinance provision invalid and that the trial court erred in taking cost in lieu of value, then, of course, the action of the trial court in excluding this item altogether must be held to have been error.

III.

Materials and supplies used or useful in rendering service are working capital and a part of the property upon which the fair return must be computed, and were improperly excluded.

(Second Assignment of Error.)

There is no question of the obligation to include working capital in the valuation. The question is simply as to its amount.

The Master allowed working capital in the sum of \$238,000 (R. I, 36). The trial court reduced this to \$120,000 (R. I, 55).

As we understand what the trial court says upon this subject (R. I, 55), his error here arose out of the fact that he took into account only the average amount of cash spent monthly by the Company, and disregarded altogether the fact that the supplies and materials, which the Company had on hand and carries currently, constitute a part of the Company's property devoted to the public service and are included in working capital. It is true that the court first speaks of supplies necessary to meet contingencies (which would be only a part of the total materials and supplies) as being a part of working capital, but it seems fairly clear that he afterwards disregarded this item altogether and made no allowance on account of it.

The point we raise upon this assignment is, therefore, one of law. If the amount allowed by the trial court was only the cash item and represents nothing on account of materials and supplies, which the uncontradicted proof shows the Company had and required in its business, then the court committed error.

IV.

The annual amount for depreciation should have been computed upon the value of the property instead of upon the cost of the physical plant.

(Third Assignment of Error.)

The Master found 6.33 per cent. of the value of the property, or \$348,150, as the amount to be allowed on account of annual reserve for depreciation (R. I, 41).

The trial court adopted the report of the Master as to the rate of 6.33 per cent., but held that it must be applied to the investment or cost of the property, not to the value. This was pursuant to the court's decision that the Company was bound by the merger ordinance to accept cost in lieu of value. The court, moreover, expressed the opinion that 6.33 per cent. would be too high a rate if applied to the value found by the master (R. I, 58).

The error of the court here arises out of the fundamental error of taking cost in place of value. If this court sustains our position upon this fundamental proposition, then this assignment of error must also be sustained. The result is, therefore, that this assignment of error turns upon a question of law, and it is for this reason that we do not discuss the evidence.

Respectfully submitted,

NELSON PHILLIPS,
C. M. BRACELEN,
W. H. DULS,
N. T. GUERNSEY,
Solicitors for Plaintiff.

SUBJECT INDEX.

		rages.		
Argument relating to expenses and revenues	4	to	5	
Argument relating to long distance tolls	6	to	8	
Argument relating to the $4\frac{1}{2}$ per cent deduction.	9	to	11	
Argument relating to relations with W. E. Co	11	to	19	
Reply to Company's Fourth, Fifth and Sixth Assignments of Error (grouped)	19	to	22	
Reply to Company's First Assignment of Error Relating to Going Concern Value	22	to	23	
Reply to Company's Second Assignment of Error Relating to Working Capital	23			
Reply to the Company's Third Assignment of Error Relating to Annuity for Depreciation.	23	to	24	

LIST OF CASES CITED.

Pa	ge.
Lincoln Gas & E. L. Co. vs. City of Lincoln, 230 U.	
S., page 255	5
Wilcox vs. Consolidated Gas Co., 212 U. S., page 52	21

Supreme Court of the United States

OCTOBER TERM, 1921.

No. 219

THE CITY OF HOUSTON,

Appellant.

VS.

SOUTHWESTERN BELL TELEPHONE COMPANY, Appellee.

SOUTHWESTERN BELL TELEPHONE COMPANY,
Appellee.

VS.

THE CITY OF HOUSTON,
Appellee.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF TEXAS.

SUPPLEMENTAL BRIEF ON BEHALF OF THE APPELLANT, CITY OF HOUSTON.

The appellee, Southwestern Bell Telephone Company, hereinafter in the interest of brevity called "the Company," has filed a brief in which is set out its reply to the brief heretofore filed by the appellant, City of Houston, hereinafter called "the City," and also the assignments of error, propositions and argument in support of the Company's cross-appeal.

Before answering the Company's propositions in support of its cross-appeal, we desire to reply briefly to its argument in answer to the brief filed by the City and correct some statements contained in such argument which we conceive to be inaccurate. In this reply, we wish to add nothing to what we have said, in our original brief, regarding the property cost, the rate of return, and the annuity for depreciation, but will confine our remarks to the revenues and expenses, the $4\frac{1}{2}$ per cent deducted by the A. T. & T. Co., the long distance tolls, and the relations of the operating company with the manufacturer, the Western Electric Company.

EXPENSES AND REVENUES.

The Company (Its brief, pp. 13 to 19, inclusive) presents the proposition that allowing all the contentions of the City, nevertheless the rate fixed by the ordinances and sought to be enjoined is confiscatory, and undertakes to support this proposition by four tables set out in its brief. The

proposition ignores two important elements.

That the operating expenses were for parts of the years 1919 and 1920, at the very peak of prices, and the cost of labor and material had advanced to a point never before known in the history of the country, but that the cost of material and labor has since the middle of 1920 greatly declined, in many instances to normal and below pre-war prices. Decline in prices of all material is bound to follow decline in prices of the great staples of the world. great staples have declined. Cotton from 40 cents in 1920 to 15 cents now; oil from \$3.00 per barrel in 1920 to \$1.00 now: wheat has greatly declined. Copper, a great staple, and largely used in telephone construction, is, we understand, practically at the pre-war price. Lead, also greatly used in the telephone business, is practically at the pre-war price. Pig iron, regarded as an index to price levels in the industrial world, has dropped 50 per cent or more in the last year. Lumber has declined in about the same proportion. Also steel. Wages are being cut all over the country. At this time instead of there being more jobs than there are laborers, as was the condition at the time of the trial, there are many more laborers than there are jobs. men throughout the country are clamoring for employment. Not only have wages been very considerably reduced, but the efficiency of labor has greatly increased. The court will take judicial notice of these facts. Lincoln Gas. & E. L. Co. vs. City of Lincoln, 230 U. S. 255, 64 Law Ed. 968. The company, although it objects to our suggestion that the court will take such judicial notice of these matters, made in support of our Ninth Assignment of Error (our brief p. 56) wherein we erroneously state that the peak of prices was reach in 1919 instead of 1920, invokes the same rule on page 7 of its brief, wherein it is stated that the fact that everything increased as a result of the World War "is a matter of common knowledge."

The Company states in its brief (p. 106), in this connection, that costs of labor and materials in the telephone business have not decreased on the whole since the trial. This is strange. Everything else has decreased, including material and labor in every other industry. If there is any competition in the purchase of telephone equipment and supplies, why should not such materials and supplies also decline?

2nd. All material and supplies were purchased, without competitive bidding, from the Western Electric Company. which, as fully shown in our original brief, is owned by the same company that operates the Houston telephone exchange, i. e., the American Telegraph & Telephone Company, hereinafter referred to as "the A. T. & T. Co." The room for profits in the purchase of material used in the operation of the plant and the extensions is, as we think we have shown in our original brief, sufficient to overcome any deficit and show a reasonable return. At any rate, until it is fairly shown what the profits resulting from the purchase of such material and supplies amount to, it cannot be said that the amounts collected from the people of the City of Houston directly and indirectly are not sufficient to afford such return upon the investment. For further discussion of this matter, we refer to our original brief, pp. 41 to 55, and also to pp. 11 to 19 of this brief.

CREDIT TO THE EXCHANGE FOR TOLL SERVICES.

It would appear from the Company's brief, pp. 24 to 27, that we are contending that the people of Houston are required to pay a return upon the property that is distinctive toll property. We are making no such contention. clearly understand that the property used exclusively for toll purposes, although it is located within the limits of the City of Houston, is not included in the property which it is claimed is being confiscated. Our contention is, as we flattered ourselves we made clear in our original brief, that the property used in operating the local exchange is also used in another capacity, that of helping to earn the long distance tolls. Not that it is the only property used in earning these tolls, but that it is also used in connection with the distinctive toll property. Further, that the value of the distinctive toll property is small when compared with the value of the use of the local property for the purpose of earning these tolls. Again, we do not mean to say that the value of the entire toll property is small when compared with the local property. Let us endeavor to make ourselves clear. There is a net-work of long distance toll lines running all over and across the State of Texas, connecting the larger cities of Houston, Dallas, San Antonio, and Ft. Worth, as well as the hundreds of smaller cities and towns. Each of these cities and towns are originating and terminating calls for the toll lines. Now prorating the value of the toll lines to all these cities and towns upon any fair basis, such, for instance, as the value of the local property, the value of that part of the toll lines so apportioned to each city, town or village would be small when compared with the local property, or even to the value of the use of such local property in originating and terminating the long distance calls. So, then, to state it again, our proposition is that while the company has even within the limits of Houston certain property that is distinctive toll property, it is, in addition thereto, using every bit of the local property in earning its long distance or toll revenues. Not only is this true, but the principal distinctive toll property, the switchboard, is housed in a building charged to the local exchange, and,

moreover, a great part of the expense in handling these long distance tolls is charged as local exchange operating ex-Now we say that this condition being created by the company, it has not on any basis that can be characterized as reasonably accurate, undertaken to say how much the use of the local property in handling these long distance tolls is worth, what rent it should pay for using the building of the local exchange for housing the distinctive toll property, and the toll operators and employees, or what it costs the local exchange to originate and terminate these calls and to perform such other services as it does perform in connection therewith. It, as stated in our original brief, simply arbitrarily credits the local exchange with 25 per cent of the outgoing calls without showing or attempting to show that it even pays the cost of the services performed by the local operators in handling these calls, and with affirmative testimony on the part of the City showing that it does not do so, as we have shown in our original brief. This would leave no compensation for the use of the local property in handling the long distance tolls.

Having failed to make any showing as to what would be a fair division of the tolls, considering the elements entering into such problem, such as the value of the use of the local property for toll purposes, the rental for the building used for the long distance equipment and its employees and the cost incurred by the local exchange in handling these calls, the company seeks to justify the 25 per cent allowance on account of the agreement having been entered into in a number of instances; but we say again such contracts are no evidence of the fairness of this transaction with the Bell System owning four-fifths of the telephone companies in the United States and owning large amount of stock in other so-called independent companies. The freedom of contract is destroyed and the instances cited reflect, after all, only the desires and policies of the Bell System, which is owned and controlled by the A. T. & T. Co., which also owns and controls the company furnishing not only the long distance service, but also, the local service to the people of the City of Houston.

The Company (its brief p. 31) says:

"The City has no power to regulate rates for toll services which extends outside the City and throughout the State of Texas and throughout the country."

This is true. We have never contended otherwise. However, the question presented here is one of confiscation. If the property of the local exchange, as well as its employees, are, in addition to furnishing local telephone service, engaged in another enterprise which yields other and additional returns, then, manifestly, it is not fair to make the people of the City of Houston pay a return upon the full value of the property so used or to permit the operating expenses, incurred in such additional enterprise, to be deducted from the revenues earned by the local exchange, and the City Council, in fixing rates, would have the right to take into consideration the additional use which was being made of the property, and to deduct from the operating expenses the expenses incurred in the other enterprise, and if the rates were sufficient after deducting only the portion of the expenses actually incurred in operating the local exchange to pay a fair return upon the value of the property properly depreciated, on account of the additional use, this clearly would not amount to confiscation. We are not speaking now of distinctive toll property. We are speaking of the local exchange, but say that the value of that, as distinguished from the distinctive toll property, should be depreciated on account of the additional use to which it is being put.

The Company says that the devision of the tolls cannot be made upon any accurate basis. We think a reasonably accurate adjustment could be made, such, for instance, as depreciating the local exchange property to the extent it is being used in the long distance enterprise, but be this as it may, the plaintiff is here claiming confiscation, and it will not do for it to say that it is not able to determine how much of the property of the local exchange is being used for the toll service, or how much expense is incurred by the local exchange in handling the long distance tolls.

THE FOUR AND ONE-HALF PER CENT DEDUCTION UNDER WHAT IS TERMED THE AMERICAN TEL. & TEL. CONTRACT.

Counsel for the Company in their brief, page 40, make the following statement:

"The City does not suggest that the contract should be abrogated and the services dispensed with. It does not question that the services are fully worth to the Company the amount of the payment. That they are of great advantage to the Company. That they are necessary to enable the Company to render efficient and economical telephone service to the public, and that they cannot be obtained anywhere else for less than this payment amounts to. The City's sole contention is that because the American Co. owns the stock of the Southwestern Co., it should render the service at cost, and if the Southwestern Co. did not show what the cost to the American Co. was, there was a failure of proof essential to the cause of action."

Counsel are mistaken. The record shows (pp. 487-519) that the City did question the necessity for the services other than the use of the induction coils, transmitters and receivers, and also questioned the services being worth the amount deducted by the plaintiff, also it questioned the fact that such services were of great advantage to the Company and that they were necessary to enable the Company to render efficient and economical telephone service. The witness Kelsey testified that the services were of no particular value to the operating plant, that the organization was an efficient one for the purpose of carrying on the many enterprises of the A. T. & T. Co., but that it was a burden upon the operating branch. (Record pp. 487-549.) The City undertook to determine from the plaintiff's witness what the Houston exchange received in return for the 41 per cent deducted, but was unable to discover where any services of any material value were rendered to the Houston exchange. The plaintiff claimed that they had developed many patents, but under cross-examination it was discovered that there were no patents used in the operation of the local exchange that were protected. (Record pp. 376-378.) They claimed that they furnished engineering services, but it was also disclosed upon cross-examination that the operating company, Southwestern Bell Telephone Company, had a competent corps of local engineers in Houston, another corps of engineers known as the state engineers and his force in Dallas, Texas, and a district engineer, with his force located in St. Louis. (Record pp. 198-199.) None of these were in any manner paid out of the 41 per cent. It was claimed in a general way that they aided in the accounting, but nothing definite was shown. It was claimed also that the A. T. & T. Co. helped finance the operating company, but, as we have shown, it being the owner of such company, it is difficult to see where it was entitled to compensation for financing, if, indeed, it did so. There is some testimony in the record to support the proposition that this so-called standardization is detrimental to the operating company (Record p. 492.) and it would seem ordinary human experience would support such testimony. Under this system there is no pride of local ownership, much less any incentive in the way of increased profits for the local operators to build up the plant and improve the service, the local operating force under this system become mere figure-heads, having not even the power of a highclass subordinate. General rules, which should be relaxed, in the exercise of proper discretion to meet local conditions, cannot be relaxed. All changes, even those involving the necessity for quick relief from objectionable conditions, if relieved at all under this system, must be in pursuance of a long and tedious course from one subordinate to another until it reaches the executive officers of the entire system. The result is over-standardization, lack of interest in the local property and the setting in of "dry rot." Without conceding that the so-called services are worth the amount which is deducted in consideration of them, but asserting that the contrary is the fact, we reiterate that regardless of these questions, the cost only of such service should be deducted from the operating expenses. Why this indirection? The A. T. & T. Co. owns the operating exchange as

well as many others to which it claims to render this service. This record shows that the company is very adept in the matter of allocations, and it should at least be able to determine the entire cost of this service, and allocate to the different local exchanges their proportionate part in the same manner it allocates so many other general charges. That it does not do so is, within itself, sufficient to show that there is a purpose in this indirection. By it the real owner of the exchange gets a revenue which it has failed to analyze, and if this character of practice is permitted the power to regulate is destroyed.

RELATIONS OF THE WESTERN ELECTRIC COMPANY, MANUFACTURER, WITH THE OPERATING COMPANY.

As stated in our brief, the A. T. & T. Co. owns both the manufacturer, the Western Electric Company, and the Southwestern Bell Telephone Company, the operating company, in the sense that it owns practically all the stock in both these companies. This is not denied. In its discussion of the City's assignment of error complaining of the deduction of the 41 per cent under the so-called A. T. & T. Service Contract, the company advances the proposition that it also advances here that the Western Electric Company, the manufacturer, and the Southwestern Bell Telephone Company, the operator, are separate legal entities, and the fact that practically all the stock of both companies is owned by another company does not impair the right of the manufacturing company and the operating company to contract with one another, and cite many cases to support this proposition. We do not propose to discuss the question of whether or not these two companies are technically separate legal entities. We are content to invoke the exception announced by the cases cited by the company on p. 43 of its brief, which is:

"That to correct and prevent a wrong, courts have announced seeming exceptions to the rule broadly stated as (1) that the separate corporate existence will be used as a legal fiction and disregarded when necessary under such conditions to remedy some wrong, and (2) that under such conditions it may be disregarded if a corporation is so organized and controlled and its affairs are so conducted as to make it merely an agency, instrumental or department of the stockholding corporation."

What stronger facts would be necessary to invoke the exception to the rule above referred to, announced by the adjudicated cases and conceded by counsel for the Company? Here we have the A. T. & T. Co. owning practically all the stock in another company which operate a large system of telephones, including the Houston exchange. Owning also practically all the stock in the Western Electric Company, which furnishes all the material for constructing such telephone exchange, as well as all material and supplies for the operation of same. Not only this, but it has practically monopolized the telephone business of the United States, as well as the business of furnishing material and supplies for the construction and operation of such tele-The owner of both these companies phone business. through its instrument, the operating company, is permitted to collect directly from the public whom it serves certain charges for telephone service. Through its other instrument, the manufacturer, it furnishes to the operating company all the material for the extension and operation of its plant. If the prices charged for such material and supplies are not fair and reasonable, the A. T. & T. Co. exacts from the public indirect charges in addition to the direct charges above referred to in the following manner: first. if the plant is constructed or extended out of material purchased at excessive costs the amount necessary to show a return upon the inflated value would be more than it would be to show a return upon the fair value, thus requiring a greater charge for the service; second, if the material and supplies used in the operation of the plant are furnished at excessive prices the operating expenses will be thereby increased, correspondingly reducing the net returns and thereby increasing the charges necessary to show a net return upon the property devoted to the public use. All the money thus received, both that from the direct charge and that from the indirect extortion, finds its way into the treasury of the A. T. & T. Co. through its two conduits the Western Electric Company and the Southwestern Bell Telephone Company. If the material for the construction and extensions of the local Houston exchange and the material and supplies for its operation are furnished by a company owned by the A. T. & T. Co. to another company which it also owns, at excessive prices, does this not create such conditions as make it necessary "to remedy some wrong," and do not the facts above stated show that the Western Electric Company and the Southwestern Bell Telephone Company are so "conducted as to make them merely agents, instrumentalities or departments of the stock-holding corporations?" If so, these are the things that invoke the exception referred to by counsel. We reiterate that the court will not look merely to the form of this matter and ignore the substance.

We do not base our contention upon the proposition alone that the mere creation of this relation is sufficient to deny the company equitable relief, although we think it should. On the bare ground of public policy. It is against a sound public policy to permit such relations. It not only tempts those who are so engaged to impose upon the public, but it creates a condition where it is almost impossible for the public to determine the extent of the imposition. ever, this aside, the Company should have made a full and fair disclosure regarding the dealings between the manufacturing and operating branch. This it has failed to do. Upon the other hand, the City has shown that, as a result of this relation, the public is being required to pay excessive prices for the material and supplies that go into the operation of the plant, thereby depreciating the revenues that could be otherwise used for paying a return upon the property, such property being also inflated by the excessive cost of the material used in constructing and extending it.

We submit that a review of the Company's testimony set out in its brief confirms and corroborates the statement

contained in the City's brief that no fair disclosure was made concerning the relations with the Western Electric Company. Such evidence is all of a general character by witnesses not in position to know the facts. There is no testimony upon the part of any executive or other officer of the Western Electric Company that has to do with the manufacturing of material and supplies. There are no books or records of the Western Electric Company in evidence, merely general statements of the Company's employees and certain expert valuation engineers. We wish to correct some statements contained in the brief of the Company which we regard as erroneous. While the witness, Mr. Cox, an employee of the A. T. & T. Co. was testifying and it developed that the Western Electric Company was furnishing practically all the material and supplies to the Houston exchange, and such witness was claiming that the arrangement was advantageous to the operating exchange. he volunteered the statement that the profit of the Western Electric Company on its manufacture of such material and supplies was 8 per cent. The Company on page 95 of its brief undertakes to show that this statement was not a voluntary statement of the witness but that it was elicited on cross-examination. As is shown by the questions and answers set out on page 95 of the Company's brief, the witness first stated that he was there to state that the power the A. T. & T. Co. had in regard to furnishing materials and supplies was not abused, and he was asked by counsel for the City whether he could testify in a general way only or whether he could give the figures such as had been referred to and the expense bills of the manufactured products, thus showing that he was asked merely in regard to the character of his information, whereupon he volunteered the unsupported statement that the profit of the Western Electric Company was 8 per cent.

Counsel for the Company, on pp. 101 and 102 of their brief, undertake to show that the testimony of the witness Kelsey, who compared the price of a switchboard furnished by the Western Electric Company with the price of such a board if purchased from other companies, was that

the price that would be charged by companies other than the Western Electric Company was \$600,000.00 as against \$752,000.00 charged by the Western Electric Company, and not as against \$1,027,000.00 as stated in the City's brief, and counsel follow this statement with the following statement:

"The statement of the City's claim should be corrected accordingly."

We have again referred to the testimony of the witness Kelsey and find that it supports our statement that the figure of \$600,000.00 of the independent companies is as against \$1,027,000.00 charged by the Western Electric Company, and not as against \$752,000.00 as stated in the Company's brief. We set out the following testimony bearing upon this question:

"Q. What other equipment, as set up in that inventory, is furnished by the Western Electric Company?

A. They have them all in there, I imagine. The central office equipment, that's in there, and current things, subject to all of these contingencies and omissions, engineering expense, general expense, taxes during construction. When that is built, contracted to be put in here and installed, I don't think that it is subject to the same treatment that the rest of the plant is; that apparatus is put in under a contract-fixed prices and—

Q. (Interrupting.) But all of these charges, for instance, Preston central office, they are all included in the \$750,000.00?

A. They have got other charges in there; 3½ contingencies and omissions, engineering expense—

Q. (Interrupting.) Over and above the \$750,000.00?

A. Yes.

Q. How much will that amount to?

A. Well, that is the total of all of them, but then this board—contingencies and omissions, \$139,667.00; engineering expense, \$191,000.00; general expense, \$99,741.00. You can easily conceive the engineering expense in your distributing system because it is built by the people here.

Q. But all that is included in the total of \$752,000.00?

A. No, they are all added to that.

Q. As I understand you, then, in this comparison which you have just made, where you say the Preston, which

includes also the Capitol, would amount to around \$600,000.00?

A.

By that you mean that by an independent company it would reasonably cost to manufacture, plus the manufacturer's profit, \$600,000.00 as compared to \$752,000.00?

A. Yes.

And that the Company has added to that a lot of Q. engineering and contingency charges?

A. Yes, they added that in addition when that is a con-

tract proposition.

Q. Now, your figure of \$600,000.00, that's a contract proposition, and that includes contingencies and omissions

and engineering?

To install that board, set up in active operation, fully tested out and up to specifications. You can't subject all these switch boards and instruments to the same thing that you do all other construction.

After they add to that the \$752,000.00, what figure

do they get on the central office equipment?

A. They add 3%, that's about \$22,500.00; 4%, which is \$30,000.00, and 3%. In other words, they add 50% before they get done with it,-add 50% to that switch board price.

Which would make a total of about how much on Q.

that?

- Well, that would run that up to almost a million dol-A. lars alone.
 - As distinguished from \$600,000.00? Q.

A. Yes, sir.

As the reasonable cost of installing it? Q.

A. Yes.

Now, Mr. Kelsey, just touch briefly on overheads, omissions, and contingencies and that sort of thing. Manufacturers of telephone equipment, where there is competition, will install that under a guarantee, put it up and test it out and eliminate any necessity for contingencies, omissions and supervision?

Always have done that.

And the prices you spoke of awhile ago include all of these things?

Everything. A.

- That same thing runs through all the other exchanges, does it not, and about the same percentage?
 - A. Yes, it does. * * * * (Record, pp. 719-721.)

Again, on pages 723 and 724, he says:

Q. I am talking about central office equipment. You stated you put that in for \$600,000.00?

A. Well, they would add about 20%.Q. And then a lot of added overcharge?

A. Well, added charges; it's in there in big type.

Q. And you stated a while ago that it would run up over a million dollars?

A. Yes, its added 50% indirect to the direct.

Q. I want you to make the calculation for Mr. Frank. You stated awhile ago, I believe, that the central office equipment was reasonably worth to manufacture, plus the manufacturer's profit, \$6,000,000.00?

A. \$600,000.0C.

Q. But as set up here in the inventory, after adding all these loading charges, it runs up over a million dollars, and I want to know this for Mr. Frank's benefit, what increase \$1,000,000.00 is over \$600,000.00 in percentage?

A. About 48%.

Q. Well, it is more than that on these figures. Just figure it out what per cent 600,000 is—what increase 1,-000,000 is over 600,000.

A. It runs over to \$1,027,000.00.

Q. Well, what increase would that be over \$600,000.00 in per cent?

A. Well, of course, it practically doubles it.

Q. Now, that would hold practically the same per cent upon all the material manufactured by the Western Electric Company and sold to the operating exchanges.

A. It would. There is no check or no restraint,—they make the prices; there are no salesman required and no

competition.

Q. They buy from one company,—one company owns

both companies?

A. There is no limit to the extravagance and they may wreck it; they have no limit and no restraining hand to hold them and they spare no expense.

Q. Do you know anything about the earnings of the Western Electric Company, Mr. Kelsey?

A. It has been one of the most profitable concerns in the whole world.

Q. Do you know of any substantial amounts in the gross value of the stock?

A. I don't think that any company in the world has paid the stock dividends and has the amount of earnings. I know of a stockholder, the Kellogg family,—they sold somethink like \$800,000.00 worth of stock which originally cost Mr. Kellogg, the father, in the '70's—the family got \$200.00 for every dollar that he put into the Western Electric.

Q. And they made it out of the profits of manufacture.

A. Oh! absolutely telephone manufacture.

Mr. D. A. Frank: A \$4,000.00 investment brought \$800,000.00?

A. Yes, sir.

After all that has been said, we feel that it almost idle to try and weigh the testimony relating to this matter as disclosed by the record, for it is known by all men that the Western Electric Company is a great monopolistic corporation that, from a modest beginning, without the addition of new capital, and through the instrumentality of stock dividends, has assumed gigantic proportions. enormous profits aside from being shown by the record (p. 724) are as much a matter of common knowledge as is the growth, through stock dividends, of such corporations as the Standard Oil, the United States Steel and Ford Motor These things are generally known and Car Company. courts will not be blinded to them, but will, we submit, take judicial notice of them. The growth of companies such as those above referred to and the profits realized by them are a part of the history of this country. As disclosed in the case of Dodge vs. Ford Motor Car Company, 170 N. W. 668; 3. A. L. R. 413, they are such as to stagger the imagination. We, of course, have no concern here with the last mentioned companies and have referred to them only by way of illustration, and say that in their history is found the parallel of the history of the Western Electric Company, is a matter of common knowledge. The only difference being that such companies other than the Western Electric Company sell their commodities to those who voluntarily purchase them, whereas, the Western Electric Company furnishes its commodities to a public service corporation from whom the public are compelled to purchase service, burdened with the enormous profits and earnings of the Western Electric Company. In face of these conditions, how flimsy is the testimony of the Company, contained in the record, that it purchases as cheaply from the Western Electric Company as it can purchase elsewhere. In the face of this history, for this plaintiff, involved as it is in a relation which has been denounced by Congress as criminal, to be granted relief in a court of equity, thereby enabling it to reap the fruits of its criminal relation merely by saying, contrary not only to the proof but also to history and common knowledge, that it has acted fairly, in equivalent to destroying the power of the public to regulate it. For, of course, it can always bring forward such testimony as it has brought forward in this case.

But counsel for the Company says it does not come within the criminal provisions of the Clayton Bill, because it is not a common carrier and because it is not "interlocking." We do not propose to follow counsel in any discussion as to whether or not the fact that practically all the stock of both the manufacturing company and the operating company is owned by the same Company makes them "interlocking," or whether a company engaged in transmitting messages is a common carrier within the meaning of the Clayton Act. If not within the letter, the A. T. & T. Co. is at least within the spirit of this law. This should operate as effectually against it when seeking in a court of equity equitable relief, such as it is here seeking, as if it was within the letter of the criminal statute.

PART II.

REPLY OF THE CITY TO THE COMPANY'S ASSIGN-MENT OF ERROR IN SUPPORT OF ITS CROSS-APPEAL.

We will reply to these assignments in the order in which they appear in the Company's brief.

The Company's Fourth, Fifth and Sixth Assignments of Error, its brief page 115, are grouped and present the proposition that the trial court erred in giving force to the provisions of the merger ordinance by substituting the cost of the Company's property for its fair value.

The first contention of the Company in support of the proposition presented by the above assignments is that the City did not plead that the Company was estopped by the merger ordinance from asserting any value on its property other than its cost, and, therefore, the City's defense of estoppel was waived. Counsel are mistaken in this statement. Such estoppel was pleaded. (Record pp. 26 and 27.)

Without stopping to discuss the question of whether or not the trial court erred in holding that the Company was estopped to deny the validity of the provisions of the merger ordinance, the City having performed by permitting the merger and the Company having accepted the benefits of the ordinance, we submit that if there was any error in the action of the trial court, such error was harmless, for the following reasons:

- (1) The prices of material and labor have so greatly declined since the trial, the amount fixed by the trial court is equal to the present fair value of the property, even tested by the reproduction theory. We have heretofore discussed this decline in prices, this brief page 4, to which we respectfully refer.
- The value of \$6,000,000.00 claimed by the Company at the time of the trial and found by the master was based largely upon the reproduction cost as of that time. (Master's Report, Record, pp. 35 and 36.) The court found that the cost of the property, as shown by the Company's books, was \$4,571,567.00 (Record p. 33), but this included \$754,-000.00 loss realized on the purchase of the property of the Home Telephone Company, and not representing any property now owned by the Houston exchange. (Record pp. 70 and 71.) So then, the cost of the property used and useful in the Houston exchange was \$4,571,567.00, less \$754,000.00, or \$3,817,567.00. This was its cost new, undepreciated. It should, of course, be depreciated, for the Company collected from the public an annuity for this purpose. But treating the property as new, still the value found by the Master was an increase of considerably over 50 per cent above the cost. We submit that the Company is not entitled to be protected in such an increase, or to have such increase included in the fair value of the property.

Wilcox vs. Consolidated Gas Co., 212 U. S. 52; 53 Law Ed. 399-400.

In this case the court says:

"And we concure with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase. This is, at any rate the general rule. We do not say there may not possibly be an exception to it where the property may have increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public. How such facts should be treated is not a question now before us, as this case does not present it. We refer to the matter only for the purpose of stating that the decision herein does not prevent an inquiry into the question when, if ever, it should be necessarily presented." (Italic ours.)

We submit that the increase to which the utility is entitled within the meaning of this decision is the normal increase, not such an increase as is here shown, where the property has "increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public."

That the increase in the reconstruction cost of the Company's property, at the time of the trial, was the greatest known in the history of the country, is a matter of common knowledge, as is also the fact that such increase was temporary and brought about as a result of the World War.

As we have seen, the Company's property used and useful in furnishing telephone service to the people of the City of Houston was only \$3,817,567.00, undepreciated. It is admitted by the Company that the plant was in only 92 per cent physical condition (Record p. 1640), and this takes no account of accruing obsolescence. (Record p. 1640.) From this it appears that the cost of the property depreciated would not be more than \$3,500,000.00. The City's witness Lyndon placed it at \$3,000,000.00. (Record p. 1661.) But the court allowed a value of \$4,571,567.00. This sum, we

submit, was certainly sufficient to include a normal, as distinguished from an enormous increase. We suggest that the method adopted by the court in fixing the value of the Company's property, if error at all, was harmless error in favor of the Company, of which it cannot complain, for the reason that the value so fixed is in excess of what the Company is entitled to.

GOING CONCERN VALUE.

The Company, by its First Assignment of Error (its brief p. 125), complains of the action of the court in not adding any going concern value to the cost of the property as found by the court. There is no doubt, under the decisions, but what, under certain circumstances where it is proven, a going concern value should be allowed. It is suggested, however, that there was no error on the part of the trial court, in this case, in failing to allow going concern value. This for two reasons:

- (1) The uncontroverted proof shows that, if a telephone plant was constructed in Houston at this time to take the place of the Company's plant, it would be in a city of 160,000 people, educated to the use of the telephone and where the demand for the service exceeds the supply. Under these conditions there could be no value in the plant on account of its being a going concern. A telephone plant is naturally, and therefore rightfully, a monopoly. It would clearly be an unnecessary burden upon the people to have to support two separate and distinct telephone systems. So, with the people desiring all the service that can be supplied and the right to give this service being monopolized by one concern, how can it be claimed that it has a going value? As we understand it, going concern value is made up of the advantage which one concern, that is already established, has over others that have to acquire the business.
- (2) After all, it was the purpose of this hearing to determine the value of the Company's property, that is, the plant already in operation in the City of Houston, not some imaginary plant that might be constructed to replace it,

and the proof shows that the cost of acquiring the business that the Company now has, was paid for by the public in the regular course of business. (Record pp. 1535-1661-1663.) In other words, it was a part of the operating expenses that the public paid in addition to the return upon the property and the depreciation annuity. So far as we have been able to ascertain, it has never been decided that where the cost of establishing the business has been paid for by the earnings of a plant, which, in turn, were paid by the public, that the utility had a right to add to its property value the cost of establishing the business, and making it a going concern, and to exact from the public a charge sufficient to pay a return upon this addition to property value, and we submit that justice and logic operate against permitting the utility to do so.

WORKING CAPITAL.

The complaint that the court did not allow a sufficient amount for working capital is presented by the Company's Second Assignment of Error. (Its brief p. 127.) As stated by counsel for the Company, this question is simply one of amount. We think, however, that it raises a question of fact and not a question of law. We will not undertake to review the evidence which we think the record discloses fully sustains the court's findings, especially when it is taken into consideration that compensation for a considerable portion of the services rendered is paid for in advance, by which we mean to say that a great part of the service for any particular month is paid for on or before the 10th of such month. (Record p. 1272.)

THE ANNUITY FOR DEPRECIATION.

The Company under its Third Assignment of Error (Its brief p. 128) complains that the rate of 6.33 per cent should have been applied upon the value of the property in order to obtain the amount to be allowed on account of annual reserve for depreciation. The City contends that the

amount, even based upon the cost of the property, is excessive, and discusses this question in its original brief, pp. 39 and 40, to which it will add nothing here.

The appellant, City of Houston, prays, as it prayed in its original brief, that in order that justice may finally be done to the parties, the judgment, of the court below in this case, be reversed and rendered with costs.

SEWALL MYER,
W. J. HOWARD,
A. E. AMERMAN,
Solicitors for Appellant.

CITY OF HOUSTON v. SOUTHWESTERN BELL TELEPHONE COMPANY.

SOUTHWESTERN BELL TELEPHONE COMPANY v. CITY OF HOUSTON.

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES
FOR THE SOUTHERN DISTRICT OF TEXAS.

Nos. 219, 220. Argued April 24, 25, 1922.—Decided May 29, 1922.

 The evidence establishes that the local telephone rate fixed by the appellant city was confiscatory. Pp. 321, 322.

2. In a suit by a local telephone company to restrain enforcement of an ordinance rate as confiscatory, there was evidence that the instruments used by the plaintiff were leased by it from another corporation which owned substantially all of its stock and also owned a large majority of the stock of a third corporation from which the plaintiff obtained much of its equipment and supplies, and that the charges paid by the plaintiff in return were reasonable and less than such services and supplies could be obtained for from other sources. Held, that the plaintiff was not obliged to prove the profits made by the two other companies, generally or in the business thus done with the plaintiff. P. 323.

3. A telephone company, by acceptance of a city ordinance approving its purchase of and merger with another company and containing an agreement on its part to measure its rates by a fair return upon its capital actually invested in the plant purchased, is not estopped from insisting that they shall be based upon the fair value of the property useful and used at the time of inquiry, when the ordinance is void as to the city, under the state constitution, and therefore lacks mutuality as between the parties. P. 324.

 Whether going-concern value should be considered in determining the base for fixing the rates of a public service corporation depends on the financial history of the corporation. P. 325. Galveston Electric Co. v. Galveston, 258 U. S. 388.

5. An assignment of error which involves careful study of a voluminous record will not be considered if the provisions of Equity Rule 75, that evidence be stated in simple, condensed form, and of Rule 21 of this court, that briefs refer to the pages of the record relied on, have not been properly complied with. P. 325.

268 Fed. 878, affirmed.

Opinion of the Court.

APPEAL and cross appeal from a decree of the District Court enjoining a city from enforcing a rate fixed by ordinance for a telephone company.

Mr. W. J. Howard and Mr. Sewall Myer, with whom Mr. A. E. Amerman was on the briefs, for the City of Houston.

Mr. C. M. Bracelen and Mr. Nelson Phillips, with whom Mr. W. H. Duls and Mr. N. T. Guernsey were on the brief, for Southwestern Bell Telephone Co.

Mr. Justice Clarke delivered the opinion of the court.

These are cross appeals in a suit to restrain the enforcement of an ordinance enacted by the City of Houston, Texas (hereinafter referred to as the City), prescribing rates for telephone service, based upon the claim that the rates are confiscatory.

The master to whom the case was referred found that the rates were clearly confiscatory and the District Court, while modifying his findings in some respects, confirmed his report and in its decree enjoined the enforcement of the ordinance. A federal constitutional question being involved a direct appeal brings the case to this court for review.

The Constitution of Texas, adopted in 1876, § 17, Article I, provides:

"No irrevocable or uncontrollable grant of special privileges or immunities shall be made; but all privileges and franchises granted by the legislature, or created under its authority, shall be subject to the control thereof."

It has been definitely decided that, while municipal corporations in Texas, as agencies of the State, may have the power to prescribe rates for public service corporations, this provision of the constitution prohibits their making contracts for the future which may not be modified at any time by appropriate action of the municipal-

ity. San Antonio Traction Co. v. Altgelt, 200 U. S. 304; San Antonio v. San Antonio Public Service Co., 255 U. S. 547, and Southern Iowa Electric Co. v. Chariton, 255 U. S. 539.

The ordinance here involved was passed in 1909 and therefore this state of the law would remove all question of contract from the case, if it were not that in 1915 the appellee in No. 219, the Southwestern Bell Telephone Company (hereinafter referred to as the Company), by purchase and merger acquired all of the property of a local corporation, the "Houston Home Telephone Company," and duly accepted an ordinance by which the City approved the merger. This ordinance contained the provision that the Company "agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing . . . that there exists a necessity for an increase of charges, in order that the said company may earn a fair return upon its capital actually invested in the Houston plant."

It is now contended by the City that the acceptance of this ordinance estops the Company from asserting that the value of its plant, as of the date of the inquiry, and not the cost of it—the "capital actually invested",—shall be the basis for rate-making, but the Company contends that the quoted provision of the state constitution rendered the City incapable of contracting by such an ordinance and that therefore it is void and not binding on

either party.

The master, treating the merger ordinance as void, determined the value of the property, used and useful in the operations of the Company, on the basis of its value at the time of the taking of the testimony in 1919, to be \$6,000,000; that the Company's total revenues for 1919, computed on the ordinance rates, amounted to \$908,258, and that its total expenses were \$1,214,462, thus showing

318.

Opinion of the Court.

a net loss to the Company for the year of \$306,204, without making any allowance for interest upon the investment.

Upon exceptions to the report of the master, the District Court decided that the Company was bound by the merger ordinance of 1915 to accept the cost of its plant. as distinguished from its value at the time of the inquiry. as the basis for rate-making, and thereupon reduced the valuation of the Company's property to \$4,571,567. The court also reduced the allowance of "reserve for annual depreciation", as found by the master, from \$348,150 to \$289,380. After making these and some other deductions the court, nevertheless, found that the operating expenses of the Company, not making any allowance for return on the investment, exceeded the income during 1919 by the sum of \$247,434. We fully agree with the District Court that there is a clear preponderance of the evidence in favor of the conclusion that the ordinance rate was confiscatory, and the decree of the court will, therefore, be affirmed.

The decree enjoining the City from enforcing the rate ordinance provides, that the City shall have the right to apply for a modification of it whenever it shall be made to appear that, by reason of change of circumstances or conditions, the rates prescribed by the ordinance (of 1909) are sufficient to yield a fair return upon the capital of the Company actually invested, and also that the decree is without prejudice to the rights of the City to exercise its rate-making power within constitutional limits. form of decree and the change in business conditions since it was entered render it so probable that there will be further controversy as to what are reasonable rates for telephone service in the City, in which it will be important to determine what the legal basis is for determining the value of the Company's property, that we think it proper to consider several of the assignments of error presented

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by the appeal and cross appeal, although our conclusions with respect to them will not modify the result we have stated of this review.

While the City's assignments of error are numerous, in the brief they are frankly limited to three:

First: That the division of receipts derived by the Company from long distance tolls, approved by the court, was not a fair or adequate one.

The Company not only operated the Houston local exchange but it owned and operated long distance toll lines, connecting the local exchange with various towns and cities in Texas and several other States. The property used in the long distance service, which was not also used in the local service, was not included in valuing the investment for determining local rates, but, as the local lines were used to the extent of permitting a subscriber to connect from his home or office station with the long distance lines through the long distance station, the Company, in practice, and for the purposes of this suit, credited the local exchange with 25% of the long-distance toll revenues received from calls originating in Houston as compensation for the use made of the local plant in rendering long distance service. The City contends that this allowance is not enough, but that it should be at least 60%. Both the court and the master found: that the proportion so credited from long distance tolls was greater than that allowed to any one of eight independent exchanges in the State of Texas by independent long-distance toll lines with which they were connected; that the amount is larger than that paid by the Company to over 300 independent exchanges with which it has like connections; and that the allowance is one customarily approved by state commissions throughout the country. pared with the formidable and very convincing evidence on which these conclusions rest, the testimony introduced by the City is meager and unsatisfactory, and we agree

318.

Opinion of the Court.

with the District Court that upon the record before us the allowance was reasonably sufficient.

Second and Third: The American Telephone & Telegraph Company owns substantially all of the stock of the Company and a large majority of the stock of the Western Electric Company. From the American Telephone & Telegraph Company the Company leases its instruments and secures their maintenance and renewal and from the Western Electric Company it obtains the greater part of its equipment and supplies used in operating its local exchange. It is contended by the City that no fair disclosure was made of the profits made by the furnishing companies on the instruments and on the material and supplies so furnished and that, for this unique reason, the Company should not be heard in a court of equity and the case should be dismissed. It is true that the Company did not introduce proof to show what the profits of the two companies were, either upon the business done with it or on their entire business, but it did introduce much evidence tending to show that the charge made and allowed for the services rendered and supplies furnished by them was reasonable and less than the same could be obtained for from other sources. Under the circumstances disclosed in the evidence, the fact that the American Telephone & Telegraph Company controlled the Company and the Western Electric Company by stock ownership is not important beyond requiring close scrutiny of their dealings to prevent imposition upon the community served by the Company, but the court recognized and applied this rule. Here again, the evidence introduced by the City was meager and indefinite, while that of the Company was exceptionally full and complete, and both contentions must be denied.

In its cross appeal the Company assigns as error the holding of the District Court that the merger ordinance of 1915 obliges the Company to accept the cost of its physical plant as the basis for rate-making, instead of the usual basis, the value, at the time of the inquiry, of the property used and useful in operating the plant. (Willcox v. Consolidated Gas Co., 212 U.S. 19, 52; Minnesota Rate Cases, 230 U. S. 352; Denver v. Denver Union Water Co., 246 U.S. 178). The asserted reason for this contention is that the merger ordinance of 1915 and the acceptance of it by the Company did not constitute a contract binding upon either the City or the Company, but that, though contractual in form, it was void under the provisions of the state constitution and the decisions cited, supra. In its answer the City avers that it did not and could not, by that ordinance or otherwise, limit its rate-making power for the future. But, notwithstanding this agreement of the parties that the merger ordinance was void, the court held that the Company, having accepted and acted upon it, was estopped to claim that it was not bound by its Misrepresentation not being involved, mutuality was necessary to any estoppel growing out of this transaction, and while thus asserting that the ordinance is void as to itself the City may not successfully assert that its adversary is bound by the acceptance of it. We think that neither party was bound by the ordinance and the acceptance of it, that the District Court fell into error, and that the proper base for rate-making in the case is the fair value of the property, useful and used by the Company. at the time of the inquiry.

The master recognized "going concern value" as an element to be taken into consideration in determining the value of the Company's property and for this allowed \$765,000, which was included in the value which he fixed upon the plant. The court, however, changing the base from the value of the property to the cost of it, concluded that under the agreement in the merger ordinance no such allowance should be made, but stated, incidentally, in

its opinion, that if it had made such an allowance it would not have been in excess of one-half the amount allowed by the master. To thus reject going concern value is as-

signed as error by the Company.

Whether going concern value should be considered and allowed at all in determining the base for rate making, and if allowed what the amount of it should be, depends upon the financial history of the Company (Galveston Electric Co. v. Galveston, 258 U. S. 388), and it is impossible for us to determine whether the requisite history for deciding this question is to be found in the three large volumes of the transcript of the record of the case, containing 1664 pages, without reading the whole of it.

Equity Rule No. 75 provides that evidence to be included in the record shall not be set forth in full but shall be stated in a simple and condensed form, and Rule 21 of this court provides that briefs of the argument shall be filed in each case, with references to the pages of the record and the authorities relied upon in support of each point. The first of these rules has been wholly ignored in the printing of this record and the second has been so neglected in the preparation of the briefs that it is impossible for the court to consider this question except by itself reading and briefing the voluminous record. This we cannot consent to do, and for the reason that the record and briefs are not prepared in conformity with the rules prescribed by this court, we decline to consider this assignment of error.

The other questions argued in the briefs must necessarily be presented so differently on any further hearing of the issues involved that discussion of them here would be profitless. The decree of the District Court must be

Affirmed.

Mr. Justice Brandels took no part in the consideration or decision of this case.